

Record

CH

Iron Compound Mixture

R Syrup of Scilla
 Tric. Opi. Campb. aa ʒi
 Vin. Antimonii ʒi
 Ext. Glycyrrhizae F.E.
 Balsam Copaiba aa ʒij
 M. Sig Dose, a teaspoonful
 every two, three or four hours
 as case requires.
 E. E. Williams, M.D.

of
 t

56

Wm. Williams

Letter Record.

Concerning

The Migration of Birds.

By Edgar A. Mearns,
Member of the Committee
on Migration of Birds,
Appointed by the American
Ornithologists' Union, and
Superintendent of the Rocky
Mountain District (Idaho,
Montana, Wyoming, Utah,
Colorado, Arizona, New
Mexico).

1. Mr. A. W. Anthony
Denver, Colorado
Febr. 7, 1884.
2. Capt. P. M. Thorne
Capt. 22nd Infantry, U.S.A.
Fort Lyon, Colorado.
Febr. 25, 1884.
3. Mr. A. W. Anthony.
Beaverton, Oregon.
Febr. 27, 1884.
4. Mr. H. J. Smith.
Cor. Hoyt & Delana Sts.,
Denver, Colorado.
Febr. 27, 1884.
5. Dr. A. K. Fisher.
Sing Sing, New York.
Febr. 27, 1884.
6. Dr. Walter W. R. Fisher
Fort Apache, Arizona
Jan. 12, 1885
Wrote letter & mailed 1885
blank and circular.

Indians of Arizona

Apache Lonto

White Mtn. or Warm Spring
Navajo.

Moguis.

~~Mohaf~~ Hualpai

Mojave

Yumas.

Chimahuari

Cocopah.

Ceroe

Isds. of Gulf Cal. (Prin-
-cipally Shark Id., north Cal.
They are can.

Gung East

Opata (Mex in Sonora)

Papagoes

Pimas

Manicopa

Navajo

Utis Ext N. E. Ariz.

Puites Ext. N. W. "

Shwasupais

Copied in Journal Vol. IV, p. 115

7. Dr. Wm. E. Hopkins.

Fort Lowell, Arizona

Sent one 1885 Circular and
blank on Jan. 12th, 1885

8. J. Willard Shultz

Fort Conrad, via Fort Benton,
Montana Terr. Wrote letter and

Sent 1 blank + 1885 circ. Jan. 12

9. Capt. P. M. Thorne, 22nd Inf. U.S.A.
Fort Lyon, Colorado.Sent 4 blanks + 1885 circular on
Jan. 12th, 1885 with letter

10. Mr. A. A. Evenson

Douglas, Col. Wrote a
letter and sent 1 blank + cir. 1885.

Oct. 26th

We left Fossil Creek at six o'clock A.M., and reached Fort Verde at 4 P.M.

1. Oroscoptes montanus. - Common all along.
2. Harporthynchus crissalis. - On the Verde River.
3. Sialia mexicana. - Common.
4. Sialia arctica. - One small flock, near the top of Fossil Creek Cañon. The first I have seen this autumn.
5. Lophophanes inornatus. - Common in cedars & junipers.
6. Cathartes mexicanus conspersus. - Common in Fossil Creek Cañon where both last evening and this morning they made a surprisingly loud noise.
7. Salpinctes obsoletus. - Common.
8. Eremophila alpestris. - Large flocks in the Verde Valley.
9. Dendroica auduboni.
10. Myiadestes townsendi. - Quite plentiful among the cedars on the hills & in the cañons all along. Singing loudly & sweetly.
11. Tainiophila nicens. - One at

Oct. 26.

the bakery at Fort Verde.

12. Regulus calendula.
13. Chondestes bilineata. - In the Verde bottom.
14. Spizella socialis arizonae.
15. Zonotrichia leucophrys.
16. Junco hiemalis oregonus.
17. Pipilo aberti. - In the Verde bottom.
18. Pipilo fuscus mesoleucus. - One or two.
19. Pooecetes gramineus confinis.
20. Calamospiza bicolor.
21. Scolecophagus cyanocephalus.
22. Sturnella neglecta.
23. Corvus frugivorus. - One large flock and several scattered individuals.
24. Corvus corax. - One or two pairs.
25. Aphelocoma woodhousei. - In cedars near "the Saw-log."
26. Sturnoparia cyanocephala. - Flocks.
27. Sayornis sayi. - At Fort Verde.
28. Ceryle alcyon. - On Fossil Creek, Clear Creek, and the Verde River.
29. Pinunculus sharpei. - A few.

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30. Accipiter fuscus.
 31. Accipiter cooperi.
 32. Buteo borealis calurus.
 33. Scops asio - Screeching all night & early in the morning on Fossil Creek.
 34. Peucaea - A few on Fossil Crk.
 35. Lophortyx gambeli. -
 36. Zenaidura carolinensis - On Clear Creek.
 37. Ardea herodias - Verde River.

Mammals: -

1. Canon Squirrel. - Several seen on Fossil Creek and near the Saw-Log.
 2. Lepus callotis texianus
 3. Lepus sylvaticus nuttalli.
 4. White Deer - Genl. Cook saw a number & killed one barren doe.

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- 3464 Myiadestes townsendi. ♂ ad.
 222; 350; 112; 106; cul., 13;
 nostl., 188; gape, 21; tarsus, 23.5
 mte., 22.5; cl., 6.5. Bill, black.
 Tarsi, feet & claws, black, slightly
 tinged with brown. Irides, hazel.
 Belongs to Fossil Cr. & Ft. Verde.
 3465. Oroscoptes montanus ♀ ad.
 222; 314; 96; 99; nost., 13;
 gape, 26; tarsus, 32; mte., 24.5
 cl., 7. Bel. Fossil Cr. & Ft. Verde.
 3466. Oroscoptes montanus ♂ ad.
 233; 326; 101; 102; nost., 13;
 gape, 26; tars., 32; mte., 25;
 cl., 7. Saw Log, between Fossil
 Creek & Fort Verde, Ariz.

Not labelled.

Oct. 27.

To-day Genl Crook and party went back to Whipple; and I went twenty miles back on yesterday's trail after the deer Genl Crook shot yesterday. On the ride, which kept me till late at night the following birds and mammals were seen:

1. Harporthynchus crissalis. Verde Valley near the post.
2. Oreoscoptes montanus.
3. Sialia mexicana. Common.
4. Sialia arctica. - Common.
5. Lophophanes inornatus.
6. Salpinctes obsoletus.
7. Myiadestes townsendi. Quite a number seen.
8. Eremophila alpestris. - Large flocks.
9. Dendroica auduboni.
10. Carpodacus frontalis.
11. Amphispiza bilineata.
12. Zonotrichia leucophrys.
13. Spizella socialis arizonae.

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14. Pipilo aberti. - On the Verde River.
15. Junco hiemalis oregonus. - Common.
16. Scelopophagus cyanocephalus.
One at Fort Verde has its breast and neck spotted with white.
17. Sturnella neglecta.
18. Corvus corax.
19. Gymnophila cyanocephala. - Several immense flocks. One contained from 500 to 1000 birds. They were in the cedars at the Saw-Log. They probably feed on the berries.
20. Appelocoma woodhousei.
21. Sayornis sayi.
22. Buteo borealis calurus.
23. Scops asio. - heard as we rode home at night.
24. Lophortyx gambeli. - A few.

Mammals: -

1. Canis callotis texianus
2. Canis latrans mutabilis

Oct. 27.

3. Prairie Wolf. - Common in this region. Howled all night.
4. Striped Spermophile. - One in the mesquites on Clear Creek.
5. Canon Squirrel. - A number were seen on the trip.
6. ?? Prairie Dog. - A low animal was seen running at a distance which I suspected was a prairie dog although it may have been an Arctomys as it was a good way off.

Oct. 25th.

- (Sawberry Valley, Sacramento)
 3467. ~~Asyndesmus torquatus~~ ad.
 245; 472; 157; 97; cul., 29;
 gape, 31; tarsus, 24; nte., 27;
 Cl., 9. Irides, white
- ~~3467. Neotoma lepida~~
 juv. 230; 438;
3468. Neotoma lepida ad.
 238; 460; 142; 91; cul., 25;
 gape, 28.5; tars., 24; nte., 26;
 Claw, 9.
3469. Asyndesmus torquatus ♂ ad.
 292; 557; 169; 106; cul., 30.5;
 gape, 37; tars., 28; nte., 31;
 Cl., 10.5.
3470. Asyndesmus torquatus ♂ ad.
 288; 535; 162; 107; cul., 32;
 gape, 36; tars., 28; nte., 30;
 Cl., 10.

not labelled

Not labelled. Not labelled.

1. Ft. Verde to Clear Creek. 6 miles.
2. to Mud Tanks
3. to Baker's Butte
4. to General Springs.
5. to the Lake Tanks.
6. to Tanks near head of Cañon Cr.
7. to ~~between~~ between Cañon Cr. & Cibicu Cr.
8. to Cibicu Cr.
9. to Carrizo Cr.
10. to Forestdale.
11. to Holbrook Road 14 miles fr. Apache.
12. to Fort Apache.
13. Remained in camp at Apache
14. to Black River 2 miles above crossing
15. to Camp on Ash Creek
16. to one mile above Gila crossing at Sub-Agency
17. to San Carlos Agency.
18. Remained in camp at San Carlos
19. to Coyote Springs.
20. to Wheatfield
21. to Salt River.
22. to Camp on Gila Cr.
23. to Camp on Gila Cr.

Oct.

24th to the Natural Bridge on Pine Creek.

25th to Fossil Creek at the Springs at }
foot of Hardscrabble Hill }

26th to Fort Verde.

27th to the place where Genl. Crook
shot a Deer, 3 miles south of the
Saw-Log & back to Fort Verde
The other members of the party
returned to Whipple Barracks.

October 18th, 1884.

I spent the greater part of the day in looking for birds on the San Carlos River. I walked from the junction of the San Carlos with the Gila up the river several miles. The following birds were seen:

1. Wren. - These Wrens have a note like the Ruby-crowned Kinglet. They inhabit the thickets along the River.
2. Salpinctes obsoletus. - Common along the San Carlos.
3. Dendroica auduboni, Common.
4. Geothlypis trichas. - Several.
5. Lanius ludovicianus excubitorides. - Singing.
6. Carpodacus frontalis. - Common.
7. Astragalinus psaltria.
8. Melospiza fasciata. - Abundant.
9. Spizella socialis arizonae.
10. Zonotrichia leucophrys. - Exceed-
-ingly plentiful. Singing.

(Oct. 18th.)

11. Amphispiza bilineata. - A few in the mesquite thickets.
12. Calamospiza bicolor. - One only.
13. Cardinalis virginianus. Four seen. Call-note exactly like the Eastern species.
14. Pipilo aberti. - Abundant.
15. Scolecophagus cyanocephalus. - In immense flocks about San Carlos.
16. Xanthocephalus heterocephalus do.
17. Corvus corax. - Abundant. Its note differs from the note of the Ravens hitherto seen. It is probably var. cryptoleucus.
18. Tyrannus vociferans. - A few.
19. Sayornis sayi. - About San Carlos.
20. Ceryle alcyon. - Common.
21. Centurus uropygialis. Common. They are often found in the boughwood along with Picus scalaris.
22. Picus scalaris. - Abundant.
23. Sphyrapicus varius nuchalis.
24. Colaptes auratus.

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Abundant.

25. Spinunculus sparverus.
26. Accipiter cooperi.
27. Circus hudsonius. Common.
28. Lophortyx gambeli. One fly.
29. Ardea herodias. - Several.
30. Butorides virescens.
31. Sturnella neglecta. - A few.
32. Vermivora flycatcher. - One, no name, also found near San Carlos. R. leucogaster.
3427. Myiophobus black. - 7 ad.
- 135; 182; 55; 58; nost., 11; gape, 18.5; tarsus, 18.5 (also); mte., 16.5; cl., 5. Irides, hazel. Bill, with mandible flesh-color, shading near tip to dusky plum-brown; maxilla, blackish. Tarsi, feet & claws, brownish-black.
3428. Cardinalis virginianus 8 ad.
- 238; 309; 96; 124; cul., 19; gape, 19; depth of bill at base, 18; width of bill at base, 14.5; tars., 24; mte., 23.5; cl., 8. Irides, hazel. Bill reddish, with brown discolorations.

north of San Carlos
 Pecos River, Arizona

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3429. *Centurus uropygialis*. ♂ ad.
 264; 450; 138; 98; cul., 30.5;
 gape, 35; tarsus, 24; mtc., 30;
 cl., 11.
3430. *Centurus uropygialis* ♀ ad.
 239; 415; 129; 94; cul., 28;
 gape, 33; tarsus, 22.5; mtc., 27;
 cl., 10.5.
3431. *Centurus uropygialis*. ♀ ad.
 248; 439; 133; 96; cul., 29;
 gape, 33; tarsus, 24; mtc., 27.5;
 claw, 10.5.
3432. *Pipilo aberti* ♀ ad.
 231; 284; 86; 118; cul., 16;
 gape, 16; tars., 30; mtc., 27;
 cl., 9.
3433. *Geothlypis trichas*. ♂ juv.
 140; 188; 58; 57; nost'l., 9;
 gape, 15; tars., 22.5; mtc., 18;
 cl., 5.
3434. *Butorides virescens* ♂ juv.
 Length to end of claws, 630;

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- 505; 780; 210; 70; cul.,
 60; gape, 80; tibia, 23; tars., 56;
 mtc., 59; cl., 10.
3435. *Circus hudsonius* ♂ juv.
 465; 1070; 353; 230;
 cul. + cere, 29; cere, 12; cul., 18;
 gape, 35; tars., 75; mtc., 45;
 cl., 15.

October 19th.

We left San Carlos at 6 o'clock
 a.m. + camped 14 miles
 on the trail to Globe, at Coyote
 Springs. The trail was all
 up hill + a good way through
 a little cañon with perpendicular
 clay banks. The south
 side of the hills were studded
 with the Giant Cactus. On one
 of them I saw a Woodpecker,
 but so far all that I did not
 see was a species of *Geothlypis*.
 Mazanitos were abundant

Several kinds of mesquites, a few cedars in the Cañon, plenty of ~~honey-suckle~~ bushes, and a number of small ~~shrubs~~ shrubs were the principal vegetation, until we got high up among the rocky hills where a few large ~~oaks~~ oaks were found.

1. Oroscoptes montanus
2. Salpinctes obsoletus. Abundant; singing
3. Phainopepla nitens. - Several.
Its note is like a low call of the Robin.

4. Tamias ludovicianus excubitorides
5. Geothlypis trichas
6. Zonotrichia leucophrys

Singing delightedly

7. Spizella socialis arizonae.
8. Calamospiza bicolor. - Several
looks near the Gila.
9. Pipilo maculatus megalonyx
10. Pipilo aberti. - In the Gila bottom

11. Amphispiza bilineata } Gila bottom
12. Melospiza fasciata }
13. Scolecophagus cyanocephalus.
14. Xanthocephalus icterocephalus
15. Sturnella neglecta.
16. Corvus corax
17. Aphelocoma woodhousei
18. Accipiter cooperi.
19. Bubo virginianus
20. Zootheryx gambeli (See over page)

The General saw two White Deer. Coyote Spring
3436. Limnocolus sparverius
L. juv. 277; 605; 187; 136;
cul. + cere, 14; cere, 4; cul., 11;
gape, 19; tars., 37; mte 33; cl. 12.5.
3437. Phainopepla nitens ♂ ad.
200; 292; 90; 99; cul., 11.5;
nostril, 8; gape, 16; tars., 20;
mte 19; claw, 6. Irides, red
Coyote Spring

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3438. Salpinctes obsoletus, ♀ ad.
150; 225; 68; 55; ^{not} 14;
gape, 22.5; Tars., 20; mte.,
18; cl., 4.5. Near Coyote Spring.
3439. Calamospiza bicolor ♂ ad.
185; 297; 91; 78; cul., 15;
gape, 15; tars., 25; mte., 24;
cl., 6.5. San Carlos.
3440. Calamospiza bicolor ♂ ad.
187; 297; 90; 78; cul., 15.5;
gape, 15.5; tars., 28; mte., 25;
cl., 7. San Carlos.
3441. Calamospiza bicolor ♂ ad.
188; 300; 93; 80; cul., 14.5;
gape, 15; tars., 25; mte., 24;
cl., 6.5. San Carlos.
21. Pipilo chlorurus. - Several.
22. Colaptes auratus mexicanus
24. ??? Dolichonyx oryzivorus. - The
Genl. saw a flock of "Red
Birds - Bobolinks" !!
25. Junco hiemalis oreganus.
26. Pipilo maculatus megalonyx

(Oct. 20)

We left Coyote Springs at
5.45 AM. and reached the
city of Globe at 10.30 A.M.,
and encamped on the stream
running through Globe at
a place called the ^{on Pinal Creek} Wheatfield.
The distance travelled, being
miles. The ^{or} trail ^{road} to
Globe was through mesquites &
^{ochotillas} agaves + ^{hackberries} sugar berries. The
Giant Cactus was plentiful
in ~~some~~ all the south sides
of hills after we left Globe.
Near Coyote Springs we passed
some rocky mounds of coarse gran-
ite exactly like the Point of Rocks,
& after we reached Globe found a
great deal of the same rock.
One whole mountain was piled
with huge granite boulders, shaded
with Giant Cacti & some of the
cacti grew right out of the
rocks. There were ^{one kind} cacti,
^{Yuccas}, & after leaving Coyote the
stream was lined with cottonwood.

Oct. 20.

1. Merula migratoria propinqua
2. Harporhynchus crissalis
3. Oroscoptes montanus
4. Phainopepla nitens. - Quite a number noted along the route. They skulked in bushes & uttered a shorter, lower & more explosive note than the call-note of the Robin, otherwise like it.
5. Salpinctes obsoletus. - Abundant.
6. Lanius ludovicianus excubitorides. - One seen.
7. Carpodacus frontalis. - Full of song & abundant.
8. Pooecetes gramineus. - A few.
9. Spizella socialis arizonae
10. Zonotrichia leucophrys
11. Junco hiemalis oregonus.
12. Amphispiza bilineata. A few.
13. Cardinalis virginianus. I saw one pair & General Crook saw one female. All

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14. Pipilo fuscus mesoleucus. - ^{in the mesquites} Abundant; pugnacious; its cries are a little less harsh than Aphelocoma woodhousei & not unlike them save in loudness.
15. Pipilo aberti. One or two seen.
16. Pipilo chlorurus. - Common.
17. ??? Dolichonyx oryzivorus. - I saw a flock, which may have been Bobolinks, flying over.
18. Sturnella neglecta. Abundant.
19. Corvus corax. - Rather common.
20. Aphelocoma woodhousei. Common.
21. Cyanocitta stelleri macrolopha. One pair near Globe, this side.
22. Sayornis sayi. - One pair in Globe about a dwelling & one or two seen this side.
23. Tyrannus vociferans. - A few scattered along.
24. Picus scalaris. - Several seen in mesquites & cottonwood.

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25. Centurus uropygialis. Common in the Cottonwoods & Mesquites all the way from Globe to this camp. Usually found in twos. Three shot were all males.
26. Ascendens torquatus. Abundant in the dead tops of Cottonwoods near this camp.
27. Colaptes auratus mexicanus. Very common.
28. Bubo virginianus. - One flew past camp just at daybreak.
29. Thamnolais sparverius
30. Accipiter jessons. - Several.
31. Buteo borealis calurus. A number of pairs seen. I shot one on a telegraph pole & one on a cottonwood.
32. Lophortyx gambeli. - Extremely plentiful all along.

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33. Zenaidura carolinensis. - Three were seen near Globe (other side) and large flocks & scattered ones this side. The first flocks seen on the trip. I shot three at one shot.
34. Circus hudsonius. - One. Mammals.
35. Leoyote. - One seen near Globe.
2. Lepus callosus texianus. Several.
3. Lepus sylvaticus nuttalli. - A number seen & one shot. They had short ears, barely tipped with black.
4. Canon Squirrel. - One or two.

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3442. *Cardinalis virginianus* ♂ ad.
245; 317; 102; 132; cul., 19.5;
gape, 20; depth of bill at base, 17;
width at base, 14.5; tars., 28;
mte., 26; cl., 8.5. Irides hazel.
Bill, pale red. Tarsi, feet &
claws, brown. Globe City
3443. *Asyndesmus torquatus* ♂ ad.
286; 555; 173; 114; cul., 30;
gape, 33.5; tars., 26; mte., 31;
cl., 11. Wheatfield, on Pinal Cr.
3444. *Asyndesmus torquatus* ♂ juv.
272; 525; 160; 102; cul., 29;
gape, 33.5; tars., 26; mte., 30;
cl., 11. Wheatfield on Pinal Cr.
3445. *Centurus uropygialis* ♂ ad.
250; 430; 129; 93; cul., 29;
gape, 33.5; tars., 24.5; mte., 29;
cl., 10.5. Globe City
3446. *Centurus uropygialis* ♂ ad.
262; 448; 138; 99; cul., 32;
gape, 37; tars., 24.5; mte., 29;
cl., 11. Wheatfield on Pinal Cr.

3447. *Centurus uropygialis* ♂ ad.
249; 438; 132; 100;
cul., 29.5; gape, 34; tars.,
24; mte., 29; cl., 11.
3448. *Pipilo fuscus mesoleucus*
juv. Quite young, not skinned.
3449. *Accipiter fuscus* ♀ juv.
355; 675; 207; 179;
cul. + cere., 20; cere., 9; cul., 13.5;
gape, 19; tars., 57; mte., 45;
cl., 10. Globe City on crop.
3450. *Pipilo chlorurus* ad.
188; 263; 85; 99; cul., 13;
gape, 14; tars., 27; mte., 23; cl.
7.5. Not skinned.

(Oct. 21.)

1. Merula migratoria propinqua
2. Oroscoptes montanus
3. Mimus polyglottus. - Two seen together. The first on the trap -
4. Regulus calendula. - A few.
5. Salpinctes obsoletus. - Abundant.
6. White-throated Wren. - Singing.
7. Camptocephalus brunicephalus. - Quite a number seen among the giant cacti. Their presence was first announced to be by a series of stirring notes uttered in ire as a pair caught me in the act of chopping down the Giant Cactus. After a terrible clink I shot one of them & afterwards secured a pair of them, ~~and~~ that were climbing about some Spanish bayonets.
8. White-browed Wren. - A number seen. Their note is Wren-like, & they also have a harsh cry.

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9. Poliophtila coerulescens.
10. Dendroica auduboni.
11. Phainopepla nitens. - Several. Call-note heard only.
12. Carpodacus frontalis.
13. Poocetes gramineus.
14. Amphispiza bilineata. - Abundant.
15. Zonotrichia leucophrys. - Singing.
16. Junco hiemalis oregonus.
17. Spizella socialis arizonae.
18. Peucaea boucardi. - Quite a number seen in the scrub oaks.
19. Pipilo fuscus mesoleucus. Its note is squeaky and harsh often uttered as the bird sits on a granite boulder amongst the scrub.
20. Pipilo aberti. - Abundant after we reach Salt River.
21. Pipilo maculatus megalonyx.
22. Pipilo chlorurus. - This & the above common in places.

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23. Scolecophagus cyanocephalus
abundant on Salt River.
24. Sturnella neglecta.
25. Cardinalis virginianus, One
26. Corvus corax, - A few seen.
27. Gymnopus cyanocephala
One flock.
28. Aphelocoma woodhousei
29. Sayornis sayi, - A few
scattered along.
30. Sayornis nigricans, One
on Salt River.
31. Mitrocephalus rubinus mexicanus
Two seen on Salt River.
32. Tyrannus vociferans, A few
33. Picus scalaris, - Rather common
34. Centurus uropygialis, - Very
plentiful in Salt River Valley
+ the adjacent region, where
they were found in mesquites
cottonwoods + on the giant
Cacti. Genl. Crook went
out with me to cut cacti

Oct. ~~22~~ 21, 69

- down in search of Whitney's
Owl. We found several Gila
Woodpeckers going to roost in
holes in the cacti + concluded
that no Owls were in
those cacti, so gave it up
after cutting several down +
finding both Owl + Woodpecker
feathers in the hole.
35. Celastrus mexicanus, - One
was seen going to roost
in a giant cactus, Abundant
 36. Asyndesmus torquatus, - A
number seen in cottonwood
along Salt River.
 37. Accipiter fuscus, - Abundant
 38. Accipiter cooperi, do
 39. Falco sparverius, do
 40. Buteo calurus, - Abundant. 1 shot
 41. Otocorys californiana,
Two seen on Salt River.
 42. Lophortyx gambeli, - Exceed-
ingly abundant.

Oct. 21.

43. *Zenaidura macroura* - a few on Salt River
 44. *Ardea herodias* - Abundant on Salt River
 46. *Ceryle alcyon* - One on Salt River
 47. *Lerquedula carolinensis* -
 48. *Podiceps* - The Gull, saw the above on Salt River.
 49. *Oxyechus vociferus* - on Salt R.
 50. *Fringoides macularius* do
 51. *Salamospiza bicolor*. Two

Mammals.

Lepus sylvaticus nuttalli Abundant.
 Canon Squirrel. Common
 Mouse. - Caught one in a hole in a giant cactus chopped down for cubs. There were two in the hole.
 Coyote. - One seen.

3447a. Mouse. f juv.

52 *Melospiza fasciata* - a Salt RiverOct. 21st

3448a. Mouse. f ad. Nose to eye, 13.5; Ear, 22; occiput, 28; root of tail, 100; end of outstretched hind-leg, 140. Ears, height above skull, 16; above meatus, 18; width, 15. Fore-arm, 14; forefoot, 9; cl., 1. Leg 24, Hind foot 20; cl., 1.5 Tail 105. Oct. 22, 1884.
 3448b. Mouse. f juv. belongs to above parent.

3449. *Campecephalus brunicephalus*
 ♂ ad. 219; 287; 94; 87; cul., 25; noz., 17.5; gape, 30; tars., 32; mte., 28; cl., 7.5. Irides, rich, bright hazel. Bill with maxilla umbrous-black, mandible flesh-color at base shading to ~~the~~ bluish at tip. Tarsi & feet plumbeous. Claws, ^{Reddish} plumbeous - brown.

3450. *C. brunicephalus* ♀ ad. 214; 280; 85; 85 (both alike) noz. 15; gape 29.5; tars. 30; cul. 24.5. I. 1.1. Salt River A.T.

Oct. 21

Between Wheatfield & Salt River
 mtc. (26.5; cl. 7. Colors as above.

2451. C. brunicephalus ♀ ad.
 210; 268; 82; 84; ^{cul 29} ~~28~~ 17;
 gape, 30; tars 28.5; mtc 26;
 cl. 7. Colors like 3449.

3452. White-browed Wren. ♀ ad.
 139; 180; 57; 63; ^{most} 10.5;
 gape, 18; tars 18; mtc, 17;
 cl. 4.5 - Between Wheatfield & Salt River

3453. Salicivora ^{pyrrhuloxia} ~~pyrrhuloxia~~ ^{pyrrhuloxia} ♀ ad.
Between Wheatfield & Salt River

3454. Cenurus uropygialis ♂ ad.
 259; 430; 132; 94; cul 33;
 gape, 37; tars 26; mtc 29; cl 11.5

3455. Melospiza mex. ♂ ad.
 153; 262; 82; 64; ^{most} 9.5;
 cul. 15; gape, 19; tars 17.5;
 mtc 11.5; cl. 5.3. On Salt River.

Oct. 22.

We rode from Salt River well
 up on Lonto Creek, where we
 encamped among some fine
 cottonwoods, but in a heavy
 rain storm that soaked everything.

Oct. 22.

1. Oroscoptes montanus
2. Regulus calendula
3. Camptoccephalus brunicephalus. - A
 few upon the Giant Cacti
 soon after leaving camp on Salt
 River
4. Salpinctes obsoletus. - Abundant.
5. White-browed Wren.
6. Phainopepla nitens. - A few
 of both sexes. The males
 were all glaucous.
7. Dendroica coronata.
8. Lanius ludovicianus excubitorides.
 Common.
9. Carpodacus frontalis. - Abundant.
10. Pooecetes gramineus confinis
11. Spizella socialis arizonae
12. Junco nivalis oregonus
13. Zonotrichia leucophrys.
14. Amphispiza bilineata. - Abundant.
15. Pipilo chlorurus. - Scarce.
16. Pipilo aberti. - A few.

Oct. 22

17. Pipilo fuscus mesoleucus
18. Scolecophagus cyanocephalus
19. Sturnella neglecta. - Common.
20. Corvus corax. - A few.
21. Sayornis sayi. - Common.
22. Tyrannus vociferans. - Common.
23. Picus scalaris. - A few.
24. Centurus uropygialis. - Quite numerous both on Salt River and thence along Canon Creek.
25. Colaptes mexicanus. - Abundant
26. Asendemus torquatus. - Quite a number on Tonto Creek.
27. Accipiter cooperi. - Common.
28. Accipiter velox. - Common.
29. Buteo borealis calurus. - Common.
30. Buteo swainsoni. - One.
31. Pandion haliaetus. - One on Tonto Creek.
32. Ammodramus sparverius.
33. Zenaidura carolinensis.
34. Lophortyx gambelii. - Common all along. (over leaf)

Oct. 22.

35. Oxyechus vociferus. - Common along Tonto Creek. One flock of 12 flying.
36. Ardea herodias. - One Salt River + Tonto Creek.
37. Fringordes macularius. - On Tonto Creek.
38. Auriparus. - One of these Titmice came close to me in a mesquite bush, on Tonto Creek, where I had crawled under after a wounded Phainopepla nitens. (Old nests seen)
39. Melospiza fasciata. - Several seen on Salt River and on Tonto Creek.

Oct. 22.

The men caught large strings of Bong-tails in both Salt River & Canon Creek, some weighing a couple or three pound Frogs like those at Verde are found in both streams as well as on the Gila & San Carlos River.

One mixed Rattlesnake killed on the Santa Cruz. We passed through a large grove of bright green wooded mesquite bushes with pods like mesquite & thorns, ^{the} ~~the~~ greasewood. Large white-spined cacti, "very poisonous" we found, 1st on trip.

Mammals:-

1. Lepus nuttalli. - Common
2. Lepus cal. texianus. - Common
3. Thomomys. - One around camp
4. Vesperugo (long-eared)

Oct. 23.

To day we left camp on Santa Cruz at six & followed that stream, as far as where it descends from the canon in the foothills of the McKlones. Then we had some steep climbing for a few miles before we reached the crossing on the Wild Rye. We followed the Wild Rye to the shore & there went into camp in a pouring rain the last six or eight miles of the march having been very hard disagreeable. The Giant Cactus and Yucca were found well up into the hills after we left Santa Cruz, but they disappeared before we reached Mud Spring two miles the other side of the Wild Rye crossing.

1. ~~Ardea~~ Oreoscoptes montanus
2. Mimus polyglottus. 1 or 2 -
3. Sialia mexicana. - One flock
4. Regulus calendula. - Common.
5. Phainopepla nitens. - A few.
6. Salpinctes obsoletus. - Common
all along in suitable places.
7. Dendroica coronata. - A few.
8. Dendroica nigrescens. - A
few of these handsome Warblers
were seen & heard in the cotton
woods about our camp on
Frito Creek. I shot one, but
could not find it. Their note
is sharper than D. auduboni's
and I at first thought its
sharp "chee" to be a soft
note of the Cardinal Grosbeak.
9. Lanius ludovicianus excubitorides
Common
10. Castroville frontalis. - Abundant &
singing very loud & sweet
11. Astragalinus hesperia

12. Poocetes gramineus. - A few.
13. Spizella arizonae. - Common.
14. Zonotrichia leucophrys. -
Very abundant. Its song is
very like that of Z. albicollis
15. Amphispiza bilineata. - Common
16. Calamospiza bicolor. - A few
flocks between Canon Creek &
the Wild Rye. When flying the
black lining to the wings is very
conspicuous.
17. Junco hiemalis oregonus A few
18. Pipilo aberti. - At Frito Creek.
Its note an exacerbation of
the Eastern Purple Finch's call.
19. Scolecophagus cyanocephalus
20. Sturnella neglecta. - Very
common. Singing. Gentle.
Has a low note like the
Hermit Thrush's 2 call or a
low note of a blackbird.
21. Corvus corax. - In flocks of
from 20 to 40 or more

Oct. 23,

22. Gymnopus cyanocephalus
One flock.
23. Sayornis sayi. - Common
24. Tyrannus vociferans.
Several flocks. One was
the largest I ever saw - about
twenty in it!
25. Picus scalaris. - A few
on Tonto Creek
26. Centurus uropygialis. Com-
mon all along Tonto Creek
27. Colaptes mexicanus. - Com-
28. Bubo virginianus. - Few
on Wild Rye.
29. Accipiter fuscus. - Common
30. Accipiter cooperi. - Very
common this shot
31. Buteo borealis calurus
Common. Five seen in
the air at once.
32. Junco oreganus
33. Aquila chrysaetos canadensis
Goul. Creek saw one and

Oct. 23.

- I saw one on
hill, and shot it with
a carbine, but could not
get a sitting shot - missed
it on the wing. Had I had my
carbine, I could have killed it.
Killed my first Golden Eagle.
34. Zenaidura macroura. -
Abundant on Tonto Creek.
35. Lophortyx gambeli. - Ex-
ceedingly common
along.
36. Ardea herodias. - Common
on Tonto Creek.
37. Colinus macularius. - A
few on Tonto Creek.
38. Oxyechus vociferans.
- many all along Tonto Creek.
39. One flock of 8 seen
on Tonto Creek.
- Mammals.
- Lepus sylvaticus. - Common
- Lepus arizonae. - Common
- Striped Gopher. - A few seen on

Oct. 23,

Tonto Creek

4. Myphitis. - One skull of a male collected.

Note. - ^{ranch above the} Store on Wild Rye, I learned that Red Berds are common there. They were described to me by a lady who called me in professionally as "having long w^h knots + red bills like a parrot."

Beaver. - I saw fresh Beaver signs on White River, the Gila, and on Salt River and Tonto Creek, and old signs on Pine Creek.

(Oct. 24.)

To-day we left camp on the Wild Rye at 7 o'clock and after following that stream for a considerable distance, started over the mountains, and soon came to a region of scrub oak and a scattered growth of cedar, the country very rolling + broken by deep gullies. We crossed several little streams having a few cottonwood and Cedar Creek, a fine stream with plenty of cottonwood "black ash" (looks like beech), "box alder" and ~~other~~ shrubs. After skirting Pine Creek a little way we crossed some more hills and took a trail leading down some steep, hill-sides, densely clothed with a species of evergreen tree which I never saw before, but gathered specimens of it.

(Oct. 24.)

Leapt. ~~Bourke~~ called it "Jerusalem Cypress". The bark is brown like mangrove with stripes of old, grey bark. The leaves are rather small on the hollow, un-
-creasing to large, handsome trees in the bottom of the ravines.

There are large areas of these trees.

At the end of the trail we found a ranch + the old ~~mine~~ Natural Bridge, over 100 feet high + a very grand thing. Beneath the bridge are some caves with ladders placed for entrance. They contain exquisite stellerites + ~~stellerites~~ and beautiful lime incrustations some of which I collected.

We encamped on the stream a mile or two above in a beautiful grove of large oaks.

(Oct. 24th)

1. Merula migratoria propinqua. - A few in one place in some cottonwoods.
2. Sialia mexicana. - Two large flocks seen in some cedars, uttering their usual call-note + also a sharp rattle like the Eastern Bluebird in autumn.
3. Regulus calendula. - Abundant.
4. Salmistes obsoletus. - Common.
5. Dendroica auduboni. - One or two.
6. Phainopepla nitens. - Quite a number seen. The males all glaucous and both sexes uttering a robin-like note - single note.
7. Lanius ludovicianus excubitorides.
8. Corpodacus frontalis. - A few near our last camp.
9. Psaltria. - A few seen.
10. Junco hiemalis regius. - Scarce.
11. Spizella socialis arizonae.
12. Contopus richardsoni. - Several seen.
13. Pipilo fuscus nevadensis.
14. Pipilo maculatus megalonyx. - A few

(Oct. 24.)

note of this bird is like the
Culbirds, while that of the
above is more harsh and
sawing like Woodhouse's Jay.

Both species very common.

15. Sturnella neglecta. - Common
16. Corvus frugivorus. - One
flock seen. No Ravens seen.
17. Aphelocoma woodhousei. - Common.
18. Cyanocitta stelleri macrolopha
~~18~~ Not seen till we struck the
cypresses near the Natural Bridge.
19. Picus villosus. - Not seen till
we reached the Natural Bridge.
20. Colaptes auratus mexicanus
Common all along.
21. Chondestes texensis acutifrons;
^{or two} one seen; not shot.
22. Accipiter cooperi. - Scarce.
23. Accipiter giraudii. - Scarce.
24. Timonius phaeurus.
25. Buteo borealis calurus. - Common.
26. Soturnix gambeli. - Common.

Oct. 24.
27. Gymnophila ~~curvirostris~~
No mammals seen.

Oct. 22.

3456. Centurus uropygialis. ♀ ad.
237; 425; 130; 90; cul., 24;
gape, 30; tars., 24; mte., 29;
claw, 11. Shot near camp on Salt River.
3457. Phainopepla nitens. ♂ ad.
200; 295; 91; 99; cul., 12;
nostr., 7; gape, 17; tars., 20;
mte., 19; cl. 5.5. Shot on Lonto Creek.
3458. Asyndesmus torquatus juv.
280; 535; 168; 106; cul., 27;
gape, 33; tars., 25; mte., 29;
cl., 10.5. Shot on Lonto Creek.

Oct. 23.

3459. Centurus uropygialis. ♀ ad.
245; 428; 129; 93; cul., 26.5;
gape, 31; tars., 23; mte., 29;
cl., 11. Shot on Lonto Creek.
3460. Centurus uropygialis ♂ ad.
263; 465; 140; 102; cul., 33;
gape, 37; tars., 26; mte., 31; cl., 11.5
Mated with the above.

Oct. 25.

Today we left camp at Pine
 near at 6 o'clock, A.M. and
 after ascending some steep, long
 hills we reached the pine
 timber for the first time on the
 return trip + we found straightway
 the birds which affect the pines.
 We passed through a thrifty
 Mormon town, and afterwards
 the settlement in Strawberry Valley
 on the outskirts of which we
 left the pines and their com-
 panions the oaks of both the
 large and small-leaved species.
 After a while we reached "~~Hart~~
~~Strawberry Hill~~, the descent to Fossil
 Creek, where we went into camp,
 after travelling 14 miles.
 Fossil Creek is in the bottom
 of a deep Cañon containing
 many caves and cliff-dwellings
 and the margin of the stream
 is well wooded with handsome

Oct 25 -

Sycamores, walnuts, "blackash"
 "box elder", swamp maple.

and is a delightful place.

The birds seen en route were,
 1. *Merula migratoria propinqua*. - Scarce

2. *Geothlypis trichas*

3. *Spizella socialis arizonae*,

4. *Junco hiemalis oregonus*,

5. *Junco hiemalis donaldsoni* ^{Common in the pines}

6. *Salpinctes obsoletus*. - In Fossil Creek

7. *Lophophanes inornatus*. - A few on
 the outskirts of the pine grove.

in juniper trees

8. *Parus montanus*. - After reaching
 the pines common in flocks

9. *Sitta carolinensis aculeata*. - Common
 in the pines.

10. *Sitta pygmaea*. - Several in the pines.

11. *Parus calendula*. - Common

12. *Salpinctes obsoletus*.

13. *Chondestes mesoleucus*
 near Fossil Creek.

14. *Sialia mexicana*

Oct. 25-

15. Corvus corax. - Two pair.
16. Corvus rugosus. - Several seen along the trail, chiefly near the cornfields at the settlements. A male Cooper Hawk attacked one, and compelled it to alight as often as it attempted to join two others, it so happened. At length, however, ^{one} of the Crows turned the tables and shot the hawk, although it several times turned and dashed at the Crow.
17. Synopica cyanocephala. Several flocks.
18. Ammodramus ultramarinus arizonae. ~~There~~ of one small flock among the oaks on the outskirts of the mines many.
19. Cyanocitta stelleri. - Common in the pines.
20. Urolocoma woodhousei

Oct. 25-

on Fossil Creek.

21. Picus villosus harisi. In the pines.
22. Melanerpes formicivorus. - Exceedingly abundant all the way through the pines. I saw them lying with acorns in their bills and hammering them into the bark.
23. Asyndesmus forquatus. - Very abundant in the pines. In large flocks. I saw many seen on the ground.
24. Colaptes auratus mexicanus. Common all along.
25. Accipiter cooperi. - One.
26. Buteo borealis calurus. - Three actually shot.
27. Cinclus mexicanus.

Oct. 25

Mammals. —

Canis Squirrels — Common on
Fossil CreekPine Squirrel — Abundant in
the pines; three shotPine Squirrels are found in Fossil Creek
Coons + Beavers + BearsLions + Coyotes are abundant

Skunk comes into T. H. Daniels

California night hawk shot at
Fossil Creek[Oct. 24 Between the Wild Pigeon & Pine Creek
3461 Calamospiza bicolor ♂ (ad?)175; 292; 87; 72; cul, 14.5;
gape, 14.5; tars, 25; mte, 23; cl, 6.5Oct. 24 Natural Bridge, Pinal Co., Ariz.
3462 Accipiter cooperi ♀ juv490; 860; 269; 240; cul, 20; cere,
26; cere, 11; cul, 18.5; gape, 27.5;
tars, 67; mte, 57; cl, 11.7; ^{downed} empty.Irides, yellow. Both of the above shot
near Fossil Creek Oct 223463 Cinclus mexicanus ♀ ad.187; 295; 91; 55; cul, 19; mte, 12
gape, 25; tars, 31; mte, 28; cl, 8.Irides, hazel. Bill with maxilla yellowish
brown dusky towards tip. Mandible bright red
shading to dusky at tip. Tarsus feet & claws flesh-colored.

Oct. 25.

3459 a Sciurus aberti ♀ ad.Nose to eye, 30; ear, 57;
occiput, 69; root of tail, 280;

end of outstretched hind leg, 435;

Ears, height above skull, 36;

measures, 43; width, 29

Tail from root to end of vertebrae 230

hairs, 310. Forearm, 56

Fore foot + cl, 42; cl, 10

Leg, 83; hind foot + cl, 68; cl, 11

Between eyes, 35; Chest girth 170.

Ear tufts (not incl. in height) 38

3459 b Sciurus aberti ♀ ad.

Nose to eye, 33; ear, 58;

occiput, 71; root of tail, 290;

end of outstretched hind leg, 440.

Ears, height above skull, 40;

measures, 45; width, 30

Tail from root to end of vertebrae, 234;

hairs, 320 Forearm, 58

Fore foot + cl, 48; cl, 10

Leg, 80; hind foot + cl, 60; cl, 11

Ear tufts, 40

Between eyes, 36 Chest girth, 180

(Oct. 2)

Mammals:-

1. White Deer. Earl Cook shot one of three at 300 yards.
2. Lynx asiaticus dorsalis
Common in rocky places along the way.
3. Lepus calotes texianus. - One seen at Camp 2 was the only Rabbit I saw.
4. Geomys. - Fresh signs were seen at Camp 2.

(Oct 2)

1. Sitta carolinensis aculeata
One only at Camp 2.
2. Salpinctes obsoletus. - Very abundant in rocky places; almost gregarious, singing. Evidently migrating.
3. Lophophanes inornatus. - In cedars. Several seen.
4. Eremophila alpestris. One or two small flocks.
5. Lanius ludovicianus excubitorides. - One.
6. Carpodacus frontalis. - A few flocks.
7. Zonotrichia leucophrys. - Clear Creek.
8. Pipilo aberti. - Clear Creek.
9. Pipilo fuscus mesoleucus.

4 1/2

5 1/2

55 1/2

6

7

Measurements of Beaver trees
31 1/2 inches Verde Riv. Cottonwood

21 1/2 " " " "

55 1/2 " " " "

36 " " " "

87 1/2 " " " "

89 " " " "

Copied in Journal Vol. IV, p. 114.

10. Spizella socialis arizonae. - Com.
- run along the route.
12. Sitta carolinensis. - A number
seen amongst the conifers.
- into a con "turret."
- 12 Abelocoma woodhousei. - A
few among the cedars in route.
13. Gymnopus cyanocephala. -
Several flocks were seen
along the route.
- 14 Corvus corax. - A few scattered
along the entire route.
15. Sayornis sayi. - A few at
McKinnis House.
16. Picus scalaris. - In mesquites
along Clear Creek.
17. Picus villosus harrisi. - At Camp
2 one was seen.

(Oct. 2.)

18. Colaptes auratus mexicanus
One seen at Camp 2.
19. Melanerpes formicivorus. - None seen until we reached Camp 2, where we first struck pine-trees. The species was then abundant.
20. Agelaius torquatus. - Genl. Crook saw several on the way to Camp 2.
21. Pandion haliaetus. - One seen on Clear Creek.
22. Buteo borealis cal. Several pairs
23. Accipiter fulvus. Several seen
24. Accipiter cooperi do
25. Tinnunculus sparverius. - Several seen.
26. Lophortyx gambeli. - Only saw one flock 2/3 way to Camp 2. Shot 9 at 9 am.
27. Coturnix massina. - I flushed three near together, each at my feet + killed them each at first shot.
28. Ardea herodias. - One on Clear Creek.

(Oct. 2)

3361. Messina Quail 7 juv.
3362. Messina Quail 8 juv.
3363. Messina Quail 8 juv.

(Oct. 1.)

The Hunt party arrived at Verde at 3 o'clock. After dining at Capt. Russell's, we started out to Camp 1., at Morris's on Clear Creek. We did not reach camp until after dark. The ladies went down to see our camp and as it was late Mrs. Russell + Mrs. Weems concluded to try staying in camp all night + go into Verde by daylight.

The only birds seen were

1. Cathartes aura
2. Tinnunculus sparverius
3. Hirundo erythrogastra
4. Sturnus sagi

(Oct. 11)
♂ Corvus corax

Colors of no. 336 (7 col.)
 Cere, bare skin around eye and
 at base of bill, greenish-yellow
 Bill, greenish-blue at base, plum-
 -beous black at tip. Tarsi and
 feet greenish yellow. Claws,
 blue-black. Sides dark hazel.
 Shot 4 miles Verde side of Camp 3.

October 3

3364. Asyndesmus torquatus
 (Skinned for Capt. Roberts) ♂ ad.
 3365 Falco columbarius juv.
 Shot at Camp 3, gape, 20
 322; 685; 220; 148; cere +
 cul., 18; cere, 4.5; cul., 14.5;
 tars., 41; mtc., 46; cl., 12.
 3366. Accipiter fuscus ♀ juv.
 340; 640; 210; 178; cere +
 cul., 18.5; cere, 8.5; cul., 12;
 gape, ~~20~~ 18.5; tarsus., 55;
 mtc., 43; cl., 11.5. Cere, saff-green.
 Bill, with maxilla blue laterally,
 at base and mandible blue at
 base; residue plumbeous-black.
 Tarsi, greenish-yellow; feet, lemon
 yellow. Claws, black. Sides,
 yellow. Shot at Camp 2.
 3367 Pyranga hepatica ♂ ad.
 Sides hazel. Bill, with max
 + tip of mandible, blackish;
 residue of mandible, bluish.
 Tarsi + feet dusky plumbeous

claws, blackish. Shot at Camp 2.
 209; 330; 105; 91; cul, 18; gape,
 21; tarsus, 25; mte., 23; cl., 7.
 3368 Corvus rugivorus
 Iris, hazel. Bill, tars. & ft. blk.
 485; 970; 327; 213; cul, 42;
 gape, 51; tars., 56; mte., 32;
 cl., 14. Shot at Camp 2.

3369 Asyndesmus torquatus ad.
 Shot at Camp 2. Irides, hazel.
 Bill, plumbeous - black, grayish
 at base of mandible. Tarsi and
 feet, plumbeous. Claws, plumbeous
 black, slightly brownish at base.
 280; 534; 172; 110; cul, 30.5;
 gape, 36; tars., 25; mte., 30;
 cl., 11.

3370 Asyndesmus torquatus
 282; 520; 167; 120; cul, 27
 gape, 33; tars., 24; mte., 30
 cl., 11. Colors as above.

Oct. 3 (Continued).

Before leaving Camp 2
I thoroughly explored the
pine woods in the vicinity
and shot off as follows:

- 1 Lewis's Woodpecker.
- 1 Long-crested Jay.
- 1 Woodhouse's Jay.
- 1 Crow
- 3 California Woodpeckers.
- 1 Sharp-shinned Hawk.
- 1 Liver-colored Tanager.

Other Birds Seen at Camp 2.

- Parus montanus a large
flock among the pines
- Empidonax frontalis
- Spizella socialis arizonae
- Sitta pygmaea
- Sitta car. aculeata
- Picus villosus harrisi
- Corvus corax. - Came about
Camp after the party left

to pick up the leavings
Gymnopleura cyanocephala. -
Dozens of flocks about
the camp. Mostly flying
over, but a few alighted
Buteo calurus. - One pair
Zophophanes inornatus. - One
Colaptes auratus mexicanus
Scolecophagus cyanocephalus

Very few rats were seen after leaving Camp 2., and the last Woodhouse's Jay was seen at Camp 2. And the Las Pencas before we got quite to Camp 2.

After leaving Camp 2, the following species were seen en route to Camp 3: —

1. Sialia mexicana. — Common
2. Troglodytes aedon
3. Sitta pygmaea
4. Sitta aculeata
5. Astragalinus phaltria
6. Poocetel gramineus confinis.
7. Zonotrichia leucophrys.
8. Meleagris gallopavo mexicana
Sgt. Martin shot one near Camp 3 from a flock.
9. Falco columbarius
10. Accipiter fuscus.
11. Buteo borealis calurus
12. Cyanocitta stelleri macrolopha
13. Agelaius phoeniceus
14. Gymnopus cyanocephala.
15. Picus villosus harrisi
16. Melanerpes formicivorus
17. Junco hiemalis dorsalis
18. Corvus corax (over)

19. Columba fasciata. - I saw one pair, flushed from the ground beneath some oak-tree, where they were eating acorns. Capt. Roberts also saw one pair.

Capt. Russell saw a large Pine squirrel (Sciurus aberti, Woodh.), the first seen on the trip.

Bear Killed by Gul. Crook

Several bands of Deer Seen.

Lepus Callosus texianus

Thomomys talpoides nubilus

October 4th

15 Bubo virginianus

One heard at Camp 3 before daylight.

20 Buteo borealis calurus.

38 Accipiter fuscus

46 Falco columbarius

19 Junco oreganus, Sparverius

20 Buteo swainsoni. - First seen after we arrived at camp 4.

77 Falco peregrinus. - One was shot at sitting on the rim-rock beside Lonto Basin.

22 Meleagris gallopavo mexicana

Capt. Russell shot one from a flock of twenty or more.

Sgt. Martin found a flock of 100. Shot one & wounded another with his carbine. A third flock was seen near camp 4 containing some fine old gobblers.

23 Columba fasciata. - I saw

Oct. 4th3370^a Sciurus hudsonius f ad.~~23~~

Nose to eye, 24; ear, 44;
 occiput, 53; root of tail, 197;
 end outstretched hind leg, 212.
 Between eyes, 26.5; Forearm, 38;
 Forefoot, 34; longest claw, 7.
 Leg, 50; hind-foot (cl.) 45;
 claw, 7. Tail from root
 to end vert., 130; hairs, 175.
 Ears height above sk., 20; meatus 24
 width, 22.
 3370^b Sciurus hudsonius f ad.

Nose to eye, 23; ear, 46;
 occiput, 55; root of tail, 205;
 end of outstretched hind leg, 325.
 Between eyes, 28. Forearm, 39;
 forefoot + cl., 35; cl., 7.
 hindfoot + cl., 46; cl., 7.
 Leg, 52. Tail from root to
 end vert., 135; hairs 180.
 Between eyes, 28. Ears
 height ~~at~~ from skull, 24, 22
 from meatus, 26; width,
 23.

197
 175
 372

bird flying. Others of the party
one, ~~flushed~~ flushed from the
ground, where they were
eating acorns beneath the
oaks. These acorns are as
sweet as Chestnuts, and the
juncos feed chiefly on them.
~~Capt. Roberts saw a pair also.~~

10. Cyanocitta stelleri macrolopha
Very abundant & vociferous

11. Gymnophila cyanocephala. -
A number of flocks were seen
all the way from Camp 3 to 4.

12. Dendroica auduboni. - The
first, in flocks were found near
Camp 3. First seen.

13. Junco hiemalis dorsalis. Very abundant.

14. Regulus calendula. - First seen

15. Parus montanus. - Very abundant.

16. Sialia mexicana

17. Certhia familiaris

18. Sitta carolinensis aculeata

19. Sitta pygmaea

20. Salpinctes obsoletus. One

Oct. 4.

3370c. Tamias

♂

♂ ad.

nose to eye, 17; ear, 30;
 occiput, 38; root of tail, 140;
 end of outstretched hind leg, 210;
 Humerus, 24; forefoot, incl. 18;
 cl., 5; Leg, 37; hind
 foot & cl., 330; cl., 4.5.

Between eyes, 15; Ears,
 height above skull, 14;
 from meatus, 17; width, 14;
 tail, from root to end vert.,
 96; hairs, 120; Ears,
 pointed.

(20. Continued)

Seen at Camp 4, the first since
 before we arrived at Camp 2

21. Picus villosus harrisi

Very abundant.

22. Melanerpes formicivorus

Abundant.

23. Asyndesmus torquatus a

number seen.

24. Colaptes auratus mexicanus

Oct. 4

3371 Picus villosus harrisi ♂ ad.
 240; 424; 130; 94; cul., 32.5;
 gape, 33.5; tars 24; mte 24; cl
 10.5; ~~2.5~~

3371^a Sciurus aberti ♂ juv.
 No measurements taken

Mammals seen:

1. Mus Deer.2. leoyote.3. Thomomys talpoides umbrinus.4. Tamias striatus quadrivittatus.5. Sciurus hudsonius fremonti.6. Sciurus aberti.

Oct. 4

Several seen & heard.

25.

3372 *Junco. dorsalis* ♂ ad.175; 270; 87; 82; cul. 13; gape 14
tars. 22; mte. 20; cl. 6.
Iris hazel.

October 5th

1. Mule Deer. - Steward Dare saw
 3. Gent. Crook saw 2.
 2. Sciurus aberti. - Gent. Crook shot
 3, one of which was melanotic
 3. Sciurus hudsonius fremonti. - Several
 were seen, always in ravines
 where the fir & spruce grows.
 All were gattering for food
 the large cones of the spruce
 These Squirrels have not been
 seen in other localities than
 these valleys, which are grown
 with Swamp maple as bright
 red in autumn as the Eastern
 maple. There are Pyrolas,
 Asters, Solidagos with heads as
 large as Squaroso & others off of
 Solidago, Sambucus, Hamamelis
 a plant like Sambucus contain-
 ing fruit as large as cranberries
 of vivid scarlet. Elders with
 large bunches of pleasant
 tasting fruit, a fruit like

Oct. 5

the common whortleberry, but had tasting Violas of more than one species. The woods bear a strong resemblance to the new Eng. & Middle States ~~pine~~ woods in these scattered ravines. The pine woods are like a park, with only grass & flowers of endless variety & beauty growing beneath. I saw monk's hoods & many other legumes; the monkshood only grows in damp ravines.

To-day I saw some large Coralorrhizas two feet high. They were seen yesterday near camp 4. There were Blue closed gentians.

4. Sciurus - Gophers very common throughout the route but none of the animals seen. Only plenty of fresh signs.

- ~~5. Sciurus aberti~~
- ~~6. Sciurus hudsonius fremonti~~
- ~~7. Tamias striatus Star. ?~~

Oct. 5.

Birds: -

1. Turdus pallasi auduboni. - The first bird shot after leaving Camp 4 was this, the only one I have ever seen. Shot in an oak in the pine woods.
2. Sialia mexicana. - Common living in the thick pine woods
3. Regulus calendula. Common, especially in the brushy ravines.
4. Parus montanus. - Abundant
5. Sitta pygmaea. - Abundant.
6. Sitta carolinensis aculeata. "
7. Certhia familiaris. One or two.
8. Dendroica auduboni. - Abundant.
9. Empidonax flaviventris. - One shot in a bushy ravine.
10. Loxia curvirostra. - Several large flocks flying with much chattering amongst the firs near camp 5 & at Camp 5
11. Junco hiemalis dorsalis. - Very abundant.

Oct. 5.

12. Scolecophagus cyanocephalus
Only at Camp 4 as we were leaving.
13. Clark's Crow A number
seen in a ravine near
Camp 5. One shot.
14. Cyanocitta stelleri macrolopha
Very common
15. Gymnospiza cyanocephala
Several flocks seen between
Camps 4 & 5.
16. Agelaius torquatus,
Occasionally seen.
17. Colaptes auratus mexicanus
One or two seen.
18. Melanerpes formicivorus
A few seen.
19. Picus villosus harrisi
Abundant.
20. Sphyrapicus varius nuchalis
One shot.
21. Sphyrapicus williamsoni
One shot.

Oct. 5.

22. Buteo swainsoni. A few.
 23. Buteo borealis calurus. - A number seen. Capt. Roberts shot 1.
 24. Falco columbarius. - One or 2.
 25. Falco peregrinus. - One adult shot but fell down the cliff into Santa Basin where it could not be recovered.
 26. Columba fasciata. - I shot one on top of a huge pine & saw one other. Genl. Crook shot one's head off with his rifle. Scarce.
 27. Thuleagris galopavo mexicanus. Capt. Phillips saw a large flock. Genl. Crook shot one young one from a brood. It was the size of a hen.

3373 Columba fasciata ad.
 370; 645; 205; 150. cul 17;
 gape, 25.5; tars 30; mte, 40; cl. 11
 Iris bright hazel. Bill, orange-yellow

with a broad terminal band of black. Skin around eye, red
 Tarsi & feet, straw-color; claws black.

2

(Oct. 5.)

3373^a *Sciurus aberti* ♂ ad.
 Melano. Shot by Genl. Crook.

~~210; 303; 208~~

Nose to eye, 31; ear, 56;
 occiput, 71; root of tail, 290;
 end of outstretched hind-leg, 233.
 Forearm, 56; forefoot, 47; cl. 10.
 Leg, 78; hindfoot, 64; cl. 11.
 Tail, vert, 208; hairs, 303.
 Ears height above skull, ^{hs 50} sk 35;
 meatus, 44; width, 27.

Between eyes 40

Chest girth 180.

3373^b *Sciurus hudsonicus* ♂ ad.

Nose to eye, 22; ear, 45; occip. 55;
 root tail, 210; hind ft. 330; Fore-
 arm, 39; h. ft. 35; cl. 7.
 Leg, 55; h. ft. 51; cl. 7.
 Tail, vert, 127; hairs, 168; Ears,
 height above skull, 21^(skull); meatus,
 26; width, 22. Between eyes 29.
 Ears, rounded.

Chest girth, 128. Total length,

Oct. 5

3373^c *Sciurus aberti* ♂ ad.

Shot by myself.

Nose to eye, 29; ear, 52;
 occiput, 69; root of tail, 270;
 end of outstretched hind-foot, 425.
 Forearm, 56; forefoot, 59; cl. 10.
 Leg 80; hindfoot, 61; cl. 10.5.
 Tail vert., 200; hairs, 280.
 Ears, height above skull, ^{hs 50} sk 35;
 meatus (sk) 44; width, 28.
 Between eyes, 36. Ears, rounded.

Chest girth 180

168
 210
 378

- 3374 Clark's Crow ♂ ad.
 Iris, brown. Bill, legs, feet
 & claws, black. 320; 580; 997; 128
 Cul., 42; gape, 46; tars. 36
 mte 34; cl., 13. ^{crop filled with} seeds of pine
- 3375 Glochila palmeri ♂ ad.
 195; 324; 108; 80; nost
 11.5; gape, 23; tars. 31;
 mte., 22.5; cl., 5.3.
 Iris hazel. Bill brownish-blk,
 flesh-color on base of mand.
 Tarsi flesh-color; feet, fleshy
 brown. Claws, dusky.
- 3376 Parus montanus ♀ ad.
 134; 275; 70; 66; 11;
 gape, 12; tars., 19 mte 13.
 cl., 5.5. Iris, hazel.
- 3377 Sphyrapicus Williamsi
 234; 425; 136; 100; cul 25
 gape, 30; tars., 21.5; mte
 23; cl., 9.5. Irides, reddish
 brown. Bill plumbeous-black. Tarsi
 & ft., plumbeous; claws, black.

/ Oct. 5

33 78 Buteo borealis calurus
 ♀ ad. Iris, hazel. Cere & skin
 at gape, yellow. Bill, greenish
 blue at base shading into plum-
 -brous black at tip. Tarsi and
 feet, yellow. Claws black
 580; 1360; 420; 260; cul.
 + cere, 37; cere, 15; cul., 26;
 tars., 84; mte., 69; cul., 24;
 gape, 45. Stomach empty.

✓ 33 79. Sphyrapicus varius nuchalis
 ♂ juv. 210; 386; 124; 80; cul 21.5;
 gape, 25; tars., 22; mte., 23; cl 9

Oct. 6.

1. Sialia mexicana, Abundant
2. Regulus calendula "
3. Parus montanus "
4. Sitta carolinensis aculeata "
5. Sitta pygmaea "
6. Dendroica auduboni "
7. Carpodacus cassinii. Several flocks were seen the first I ever saw. They were singing pleasantly.
8. Passerculus savanna. - One seen near Camp 6. in a little marsh surrounded by pines.
9. Zonotrichia leucophrys. One seen near Camp 6.
10. Spizella socialis arizonae. - few seen under the pines. - mixed with flocks of Junco.
11. Junco hiemalis dorsalis, - Very abundant.
12. Corvus corax. - One pair.
13. Cyanocitta stelleri macrolopha. - Very common. One note is like the House Wren's harsher note, Sparrow and it is produced with a tick sound.

Oct. 6

14. Gymnopus cyanocapitata. A few flocks seen along the road, feeding on seeds of pines.
15. Picus pubescens gairdneri. One seen & shot as it was stepping among the terminal branches of the pines much as P. niger with hatches do. This, however, may not be characteristic.
16. Picus villosus harrisi. Abundant.
17. Colaptes auratus mexicanus. A few scattered about.
18. Scops asio. - One seen in a cleft of rock on the rim-rocks of Pinto Basin.
19. Buteo borealis calurus. - Common.
20. Buteo swainsoni. - One.
21. Falco columbarius. - Several.
22. Meleagris gallopavo swainsoni. - Several. Crook killed one of a flock. + Capt Russell saw a flock.
23. Columba fasciata. - Three seen. The first on top of dead pine.

1 Oct. (C.)

3380 Sitta pygmaea ♀ ad.
110; 198; 62; 38; cul., 14.5;
gape, 16.5; tars., 14.5; mtc
15.5; el., 6.

3381 Cyanocitta stelleri macrolopha
♀ ad. 302; 458; 143; 133
cul., 28; gape, 32.5; tars. 43
mtc, 32; el., 9.5

3382 Cyanocitta stelleri macrolopha
♂ ad. 310; 475; 143; 143; cul., 28;
gape, 33; tars., 45; mtc, 35; el., 11

Oct. 5

3383. Picus pubescens gairdneri ♂ ad.
179; 315; 101; 78; cul., 18;
gape, 22; tars., 17; mtc 19; el., 9
Hides reddish-brown. Bill

plumbeous-black. Tarsi and
feet plumbeous. Claw dusky

3384. Carpodacus cassinii ♂ ad.
163; 276; 86; 68; cul., 12;
gape, 15; tars., 19; mtc 20;
el., 6. Hides, hazel.

3385. Carpodacus cassinii ♀ ad.
162; 277; 86; 66; cul., 12.5;
gape, 16; tars., 20; mtc, 20; el., 5
Hides, hazel

The region traversed was
thickly wooded with pines and
a few oaks and ~~and~~ ^{and} ~~low~~ ^{and} ~~and~~
spruce covered with bright
aspens. No fir or spruce

3386 Zonotrichia leucophrys ♂ ad.
170; 256; 81; 79; cul., 12.5; gape
13.5; tars., 24; mtc 23; el., 6.5

Oct 7th

Mammals: -

Mule Deer. - An Indian guide
shot at one at the head of
the Canon.

2. coyotes. - Every where on route

3. skunks

4. Long-eared Bat.

Oct 7th

1. Sialia mexicana
2. Regulus calendula
3. Parus montanus
4. Sitta carolinensis
5. Dendroica auduboni
6. Junco hiemalis dorsalis
7. Corvus corax. - One at Camp 5.
8. Ceryle alcyon. - A pair at
the head of Canon Creek
near Tonto Basin
9. Picus villosus harrisi
10. Asyndesmus torquatus. - Found
the feathers near Camp 6 &
saw some at Camp 7.
11. Euphonia auratus mexicana
Several seen between Camps
12. Accipiter fuscus. - One seen
13. Querquedula discors. - Two
in little pool beside ranch
at head of Canon Creek
14. Cyanocitta macrolopha
15. Tyrannopica cyanocephala
16. Picicorvus columbianus. One

(Oct. 7)

After reaching Camp 7, I went out shooting and saw.

16. Junco fasciata

6. Junco hiemalis oregonus

10. Eucoitta ultramarina arizonae

4. Eucoitta stelleri macrolopha

One came within a few feet of me, flying from branch to branch until I was almost upon it as I lay on the ground.

5. Empidonax difficilis

5. Junco hiemalis deserti

7. Spizella socialis arizonae

2. Regulus calendula

3. Parus atricapillus

4. Sitta carolinensis

12. Melanerpes formicivorus

13. Geothlypis trichas

11. Sphyrapicus varius nuchalis

Two seen

114. Merula migratoria propinqua

First seen a small flock

8. Gymnopus cyanocephalus 151

15. Meleagris gallopavo mexicana. - Capt. Russell shot at a flock of gallinules Creek brought in a fine Gobbler.

The turkey (see Davis's Conquest of N. Mexico) was domesticated by the Aztecs in New Mexico and Arizona. Let Capt. Bourque to write it up. Genl. Crook calls turkeys by sucking air through the radius of the bird.

14. Scops asio. - Crying after dark around camp 7.

18. Sceloporus cyanocephalus
A few about the ranch at the head of Cañon Creek.

A species of Veratrum with
slenderer leaves than Viride
grows along the Creek by Camp 7
& were seen in rich, damp
places ^{the day before} yesterday.

A new species of leaf of a
delicate pink color first seen
to-day in Forto Basin, when
we were on the river - looked
like a leaf which had not been
seen before between Camps 2
& 3, the leaf.

The small-leaved oak (Quercus oblongifolia)
such as, grows at Whipple
was first seen to-day as we
got down into Forto Basin.

The leaves are small & narrow.
The large-leaved oaks were
first found between Camps
2 & 3 where the scrub oak
ends.

There are a few spruces
here at Camp 7.

A new species of grape grows
here, prostrate, small berries &
leaves, large (open bunches of)
grapes with disagreeable musty
flavor.

A pretty purple cleatane
(Erigeron).

A miniature holyhock and
a bright purple Geranium, and
some new legumes.

The Goldenrods are very fine.

(Oct. 7.)

✓ 3387 Sphyrapicus varius nuchalis ♂ ad.
 226; 408; 130; 94; cul., 25;
 gape 28; tars., 22; mte., 22;
 cl., 9. Iris, reddish-hazel.
 Bill, dusky plumbeous. Tarsi
 + feet, plumbeous; claws, dusky.
 Shot in Camp 7.

~~33 . Merula migratoria propinqua
 juv. no white on tail,
 265; 435; 146; 122;
 nost., 14; gape, 28; tars 34
 mte 30 cl., 7.5; Irides hazel
 Bill, brownish black, slightly
 yellow at base of mandible, legs
 feet + claws, brownish-black;
 bottom of feet yellowish~~

~~33 . Junco hiemalis oregonus
 149; 238; 72; 69; cul., 11.5;
 gape, 12.5; tars., 20; mte 18; cl.,
 5.5. Irides, hazel. Bill, flesh-color
 very slightly tipped with blackish.
 Tarsi + feet, brown; claws, dusky.~~

(Oct. 7.)

33.

Eupidonax

145; 234; 72; 65; most, 8;
 gape, 15; tars., 17; mte., 14.5;
 cl., 5. Iris hazel, Bill, brownish
 black, with basal $\frac{2}{3}$ of mandible
 pale fleshy brown. Tarsi, feet + claws
 black.

3387a Sciurus aberti

Fad. 66

Nose to eye, 28; ear, 54; occiput
 root of tail, 263; end of outstretched
 hind-foot, 443. Between eyes
 37 Fore-arm, 54; forefoot, 48;
 longest claw, 10; leg, 80; hind
 foot, 66; longest claw, 11

Tail from root to end of hairs

290 Vertebrae, 210 Ears, height
 above skull, 36; meatus, 44;
 width, 28; Ears measured to
 skin, hairs 7 above skin. Chest girth,
 185

(October 8.)

1. Merula migratoria propinqua
Quite a number seen along
the route
2. Sialia mexicana, Common.
3. Regulus calendula
4. Parus montanus
5. Tophophanes nigratus. - Not
seen till we got through the
pineries near Camp 8. Among
cedars & junipers, Scarce.
6. Sitta carolinensis aculeata
Abundant in the pines
7. Sitta pygmaea, do
8. Dendroica auduboni, Common
9. Proccetes gramineus confinis
A few at Camp 8.
10. Zonotrichia leucophrys. Abundant
at Camp 7
11. Spizella socialis arizonae
12. Junco hiemalis oregonus.
A few at Camp 7. Gradually
growing abundant as we
descended, while dorsalis

(October 8)

grew scarcer as we got out of the pines.

13. Junco humilis dorsalis

14. Pipilo maculatus megalonyx,
a few near Camp 7.

15. Corvus corax, - One pair seen

16. Corvus frugivorus, - A few scattered individuals + one large flock at Camp 8.

17. Myiophila cyanocephala

Large flocks alighting on the ground, the rear rank continually flying ahead, and so progressing. The whole flock yelling like sixty. The attack hawks and vultures are awful din.

18. Aphelocoma woodhousei

One or two at Camp 7, and increasing in numbers all the way to Camp 8.

19. Lyanocitta ultramarina arizonae, - A few at

1 Oct 8,

Anas herodias, - One seen
at Camp 8 on the Cibola
Ceryle alcyon

(October 8)

Camp 7 & thence to Camp 8
~~where~~ a few occasionally
seen. Their cry is: "Pee-
fe we - we" They usually
associated with Long-crested Jays

20. Cyanocitta stelleri macrolopha

All along the route abundant

21. Asendramus torquatus

Abundant all along the route

22. Melanerpes formicivorus

Fairly abundant.

23. Sphyrapicus nuchalis,

Common all along the route

24. Prus villosus, - Only
one seen.

25. Colaptes auratus mexicanus

Very common

26. Buteo borealis calurus

A few near Camp 8

27. Buteo swainsoni

One at Camp 8

28. Melospiza gulapavo

mexicana, An

(Oct. 8.)
G. T. Freibeger.

3388^a, Scurius aberti ♂ ad.
Nose to eye 28; ear, 52;
occiput, 66; root of tail, 285
end outstretched hind leg, 445
Tail from root to end of hairs,
315; vertebrae, 235. Ears
width, 28; height above skull,
31; above meatus, 39
Between eyes, 32
Forearm 63; forefoot, 46
Claw, 11. Leg, 82
~~hindfoot, 66~~; Claw, 11
Ear-tufts, 19; hindfoot 67.
Chest girth, 175

Mammals: -

1. Scurius aberti
2. Thomomys talpoides umbrinus.
3. Lepus callosus texianus.
4. Geomys gramineus

(Oct. 8.)
Indian shot 3 with rifle
& wanted me to buy them
for \$1. each.

3388. Cyanocitta ultramarina
arizonae ♀ ad.

330; 517; 165; 152; cul.,
29; gape, 35; tars 45-
mtc, 33- cl. 11

Irides hazel. Bill mottled
black & yellow. Tarsi feet &
claw jet black.

(Some tail-feathers shot out)

3389. Cyanocitta ultramarina
arizonae ♂ ad.

340; 525; 168; 162; cul.,
30; gape, 36; tars 44;
mtc, 36; cl. 11. Colors as above

3390. Asyndesmus longirostris

275; 535; 167; 100; cul., 27;
gape, 35; tars, 25; mtc, 32
claw, 11.

3391 Aimophila torquatus
 285, 550, 172, 109, cul,
 30, gape, 35, tars, 29, mte 30;
 el, 11

3392. Columba fasciata 1 ad.
 355, 635, 207, 146, cul 18
 gape, 24, tars 19 mte 37 el 10
 Colona like No 338

October 31

1. Turdus halli auduboni. -
 One seen half-way between
2. Oroscoptes montanus. - A few
 seen + one shot
3. Sialia mexicana. - Abundant
4. Regulus calendula. - "
5. Troglodytes normalis.
6. Ptila carolinensis. - A few
7. Dendroica auduboni. - "
8. Pyrranga ludoviciana. - One
 shot.
9. Myiadestes townsendi. - Several
 seen in a little canon; they
 have a very clear sweet
 call-note, and were singing
 exquisitely. One that I shot
 crawled under the rock at
 the bank of the little brook
 in the canon + could not be
 got at. They make a whirring
 sound like a woodpecker
 when flying from branch
 to branch

(Oct. 9.)

1. Lepus callosus texianus
Eyes shot. Several seen.
2. Tamias. — Several.
3. Rock Squirrel. — Several.
4. Geomys. Signs everywhere.

18. Sceloporus orcutti.
A very large flock came down
to Camp 9, and one bird was
white. Last, Cook + myself
both tried to shoot it but did
not succeed.

(Oct. 9.)

10. Podiceps gramineus confinis
Common in some spots.
11. Penelope. — Among oak
brushes and in the beds
of sunflowers eating the seeds.
12. Junco hiemalis oregonus
Very abundant.
13. Spizella socialis arizonae
Very common.
14. Pipilo maculatus megalonyx
Abundant all along road.
15. Zonotrichia leucophrys. —
Abundant in places.
16. Astragalinus platina. Singing.
17. Agelaius phoeniceus. — One
female on a little stream.
18. Sceloporus orcutti.
Large flock ^{at} near Camp 8.
19. Corvus corax. — Common.
20. Corvus purpuraceus. — Flock
at Camp 8 & one or two seen
on the road & at Camp 9.
21. Gymnokitta cyanocephala

(Oct. 9)

Large flocks seen all
along the road. Some con-
-tained over 500 birds

22. Gauvitta stelleri macrolopha
Exceedingly abundant all along
23. Gauvitta ultramarina arizonae
Abundant all along. One shot
24. Aphelocoma woodhousei, - Com-
-mon all the way.
25. Picus villosus harrisi, One.
26. Spizopicus varius nuchalis
Abundant
27. Melanerpes formicivorus
Abundant
28. Asyndesmus torquatus
Quite plentiful
29. Colaptes auratus mexicanus
Abundant all the way.
30. Melospiza melodia, - Abundant
31. Corvus 9 along the stream
Buteo borealis calurus. Several
32. Falco columbarius - One pair seen.

[Oct. 9.]

33 *Columba fasciata*. - In
flocks of 25 to 100.
More abundant than hitherto
In the pines they were
single or in twos or threes.
In the cedars & junipers
lower down (yesterday), a
few flocks of 5 and 10
were seen. To-day they
were in large flocks.
The timber along the route was
juniper, cedar, fir, a few
pines and cotton & abundant
oak trees both small & large
leaved.

34. *Lophortyx gambeli*. - One
flock between Camp Capt.
Roberts. Shot one.

35. ? *Trochilus alexandri*. -

Genl. Crook saw one &
36. *Molothrus ater* & *urus*
a few about the station
Camp 9

(Oct. 9.)

3393. Cyanocitta ultramarina
arizonae. ♂ ad.

335; 510; 172; 158; cul., 30
gape 36 tars 41 mtc 36
cl 11

3394. Pyranga ludoviciana. ♂ juv
185 x 296; 92; 72; cul. 15
most 11 gape 19 tars 17.5 mtc 17
cl. 5.3

3395. Oendeleus tosquatus
♂ ad. 287; 527; 168; 104;
cul., 29.5; gape, 34; tars 28
mtc, 30; cl, 11

(Oct 10.)

The Carajo is about the size of
 Clear Creek. Shortly after leaving
 the Carajo we came to a
 large branch of it called
 Learduroy which flows through
 a deep, beautiful canon,
 wooded with cottonwoods like
 those at Verde. Another
 handsome tree resembling the
 cottonwood & which
 we saw in the Carajo at
 high latitudes on the
 these were the 1st "Vere"
 woods. (1) (Populus fremontii)
 on the mountain side in the
 pines we had seen
 of medium sized depth (Pop =
 = ulus tremuloides).

(Oct 10.)

- Still at Camp 7, Rainier, Wn.
 1. Scolecophagus cyanocephalus
 The flock still here. I saw
 brook she. & the white
 but did not kill the white
 bird, although he killed
 several others.
2. Quarquadula carolinensis
 One seen on the Corisa (not
 spalled right. Then "Red
 Creek"). This morning.
3. Melospiza fasciata, Singing
 in the reeds beside the Corisa.
 The Capt. concluded to start
 at 8 o'clock the weather soon
 became fair. We reached Forest
 Dale soon after four o'clock.
4. Myiadestes townsendi. - A few
 heard singing in a deep canon
 a beautiful song
5. Spizella mexicana. - Common
6. Regulus calendula. - In pairs
7. Lophophanes inornatus. - A few

in ~~the~~ cedars.

8. Sitta pygmaea. - A few when we reached the pines near Camp 10.

9. Sitta carolinensis aculeata. - Three

10. Merula migratoria propinqua. - One or two near Camp 9.

11. Dendroica auduboni. - Common.

12. Astragalinus psaltria. - Large flocks in the creek bottom at Camp 9, feeding on sunflowers. Also seen occasionally along the route.

13. Columbigallus porphyrio. - A few in the grass along the mesa above the Rio Conchos. Note a bird "cheek".

14. Junco hiemalis oregonus. - Common.

15. Spizella socialis arizonae. - Common.

16. Zonotrichia leucophrys. - A few.

17. Pipilo maculatus megalonyx. - Common in places.

18. Corvus corax. - Common.

19. Corvus brachyrhynchos. - A few in the creek bottom.

(October 10.)

20. Gymnophila apnocephala. - Com-
-mon all along the route,
but in small flocks.

21. Aphelocoma woodhousei. - Com-
-mon until we got in higher
ground west of the Colorado
amongst the pines. I shot one.

A fall of rocks & a small
the edge of the slope. Look down, it soon
rolled with me & I went to the
bottom. A stone struck me on the
head & another on the shoulder
but did not injure me except
to stiffen me up some.

22. Cyanocitta stelleri ultramarina
arizonae. - Quite a few seen
before we crossed the

23. Cyanocitta stelleri macrolopha
Very common all along.

24. Picus villosus. - A few.

25. Melospiza formicivora. -
Common after we reach the river.

(October 10)

26. Ascendimus torquatus.
Common in the pines, their
notes when playing in flocks
are like a Squirrel's.
27. Colaptes auratus mexicanus.
Common all along.
28. Falco columbarius, One
near Camp 10.
29. Coturnix nasuta. The
General saw three.
30. Hylocichla ustulata, two
at Camp 9 on Cariso + one
or two more before we
reached the Corduroy Creek.
31. Ceryle alcyon. Several were
fishing in the Carrizo.
32. Sayornis sayi. - One was
shot on the mesa above Corduroy.
As I was picking it up, it flew
and was circling about for
some minutes before it finally
disappeared in the distance.

(Oct. 10)

3396, Asendemus longuatus ♀ ad
 272; 520; 165; 112; cul 27
 gape 33; tars 23 mte 27 el 10
 3397, Asendemus longuatus ♂ ad
 280; 540; 175; 106; cul 29
 gape 36 tars 26 mte 30 el 11

(Oct 11.)

Left Camp 10 at 5:45 A.M.
and got in to Camp 11, sixteen
miles from Ft. Apache, on the
Holbrook road at 1:30 P.M.

1. Merula migratoria propinqua
2. Sialia mexicana, Common
in small flocks.
3. Regulus calendula, - Blue or two
4. Sitta carolinensis aculeata
5. Sitta pygmaea, Both Sittas com.
6. Lophophanes inornatus, A few
near Camp 11.
7. Dendroica auduboni, - Common
8. Astragalinus psaltria, - A few.
9. Spizella socialis arizonae, Com.
10. Junco hiemalis oregonus, "
11. Junco hiemalis dorsalis, "
12. Zonotrichia leucophrys, "
13. Scelopophagus cyanocephalus, A
few before we left Forest Grove
14. Corvus frugivorus, - A few
near Camp 11.
15. Corvus corax, A few

(Oct 11)

Measured the largest oak seen to-day. Circumference a little over 3 metres. Estimated height 20 metres.

Pines were seen over a hundred feet in height and about 6 metres in girth.

The small leaved ^(Quercus oblongifolia) oaks were seen during the last half of the way & are abundant with the large leaved here at Camp 11.

A beautiful dark red Serris was found, and a handsome fragrant mustard-yellow. Strawberries (Fragaria) plenty also Violas.

A small pine with little cones grows on the mountain. Fir trees were numerous.

(Oct. 11)

16. Cyanocitta stelleri macrolopha
Very Common. It has a mellow whistle beside its various cries.

17. Lynniropeia cyanocephala
A few seen.

Steller's Jays are great fighters & pester all kinds of Hawks & Owls, assembling in great flocks to amuse themselves in this way. To-day they were worrying a Red-tail & a Sharp-shinned Hawk.

18. Empidonax

One was shot in the pines on the highest ridge of the mountain over which we crossed.

19. Picus villosus. harrisi. A few

20. Melanerpes formicivorus
Common. Saw the holes bored by them to store acorns in dead trunks.

(Oct. 11.)

Mammals

1. Procyon nigripedes. - A Raccoon was shot at in some rocks by Capt. Roberts
2. Sciurus aberti. - Genl. C. Shot three. I shot one. Several times they have escaped me; but this one I secured after half an hour's work. He was at last discovered clinging to the very topmost bough of the tallest pine in the place. I had supposed they had holes in the living trees they eluded me so completely; but I now think they owe their safety to their cunning in concealing themselves in the tree-tops.
3. Geomys as usual.
4. Deer seen near Camp 11.

(Oct. 11.)

21. Asendessurus torquatus
Very common. They squeak like flickers and chatter when playing exactly like squirrels.
22. Sphyrapicus varius nuchalis
was seen once only.
23. Accipiter fuscus. One
24. Buteo borealis calurus. - Several seen; one shot.
25. Colaptes auratus. - A flock of half-grown young & one old male leading was seen at Camp 11 by Genl. Crook.
26. Columba fasciata. - Three seen. I shot one.
27. Zenaidura macroura. - Capt. Roberts saw one at Camp 11 near Ft. Apache (15 miles).

(Oct 11.)

3398. Empidonax

♀ ad.

137; 222; 66; 60; not 7;
gape, 14; tars 17; mte 13; cl 4.53399. Melanerpes formicivorus

♀ ad, 233; 455; 145; 89;

cul., 27; gape, 31; tarsus, 20.5;

mte., 25; claws, 9. Irides, white

Bill, blue-black. Tarsi & feet

plumbeous; claws, dusky plumbeous

3400. Asyndesmus torquatus ♂ ad.

Skinned for Dr. Fisher

3401. Asyndesmus torquatus, ♂ ad,

282; 545; 176; 108; cul. 30;

gape, 36; tars 27; mte 30; cl 11

Oct. 12.

Mammals:

1. Sciurus aberti. - Genl. Crook
Shot one + I shot one. This
species is abundant about Apache

2. Tamias (dorsalis?)

(3402.) Passerculus ochrocephalus, ♀
148; 270; 82; 59; cul., 10.5; gape,
12; tarsus, 20.5; mte., 19.5; cl. 6

(3403.) Passerculus ochrocephalus, ♀
152; 273; 81; 63; cul., 11; gape, 12;
tars., 20.5; mte., 18.5; cl. 6.

(3404.) Passerculus ochrocephalus, ♀.
152; 267; 79; 59; cul., 10.5; gape,
12; tars., 20; mte., 18; cl., 5.

(3405.) Passerculus ochrocephalus ♀.
148; 264; 82; 60; cul., 10; gape,
11; tars., 19; mte., 18; cl. 5.

Irides, hazel. Bill, with maxilla
above + tip of mandible, dusky-brown;
residue, flesh-color. Tarsi + feet, brown;
claws, dusky

1. Sitta migratoria (or pygmaea), Com.
2. Sitta mexicana. - Abundant
3. Sitta carolinensis aculeata
4. Sitta pygmaea
5. Lophophanes inornatus,
6. Dendroica auduboni, - abundant.
7. Poecetes gramineus confinis
8. Passerculus ochrocephalus. - In
good sized flocks in the short
grass by the roadside. They
utter a sharp "cheep" as they fly
and keep in close flocks like
Arremon, calling on the wing un-
till they settle in the grass
close together. Then some get
close & some get very close
before they rest.
9. Junco hiemalis oregonus } Summer
10. Junco hiemalis dorsalis }
11. Pipilo maculatus megalonyx
12. Sceloporus lagoscephalus
Large flocks by the roadside
& in pine-trees also abundant

13. Tyrannocitta stelleri maculophia
14. Gymnophica cyanocephala
15. Corvus corax. - Very abundant
about Apache.
16. Picus villosus harrisi
17. Isodendron torquatus
18. Melanerpes formicivorus } abundant
19. Colaptes auratus mexicanus
20. Buteo borealis calurus
21. Accipiter fuscus. - One caught
Brewer's Blackbirds at Apache
22. Junco oreganus
23. Contortyx massina. One found
24. Columba fasciata
25. Melospiza galapago-mexicana
One flock crossed the road in
front of the General,

Oct. 13.

At Fort Apache all day.
 Ind. Cook held a grand
 pow-wow with the
 Apache Indians, and I spent
 the day listening.

In the afternoon I rode
 the south fork of White River
 up into the Cañon and
 climbed up a high hill
 to get a full view of the country,
 and a magnificent panorama
 I saw — a view to be remembered
 to this day. Quails could
 be found, & I saw no
 Gambel Quails either. The
 Massenas are more abundant
 than Gambels at Apache. The
 Gambel Quail does not fly
 & we leave the valley & go
 country for the mountains.
 Just at evening I heard
 some Surkeys, but it was
 too dark to follow them.

(Oct. 13)

The birds seen were

1. Merula migratoria propinqua
Very abundant.
2. Sialia mexicana. - Abundant.
3. Regulus calendula. - A few
4. Gophophanes nigratus. - Common.
5. Sitta carolinensis aculeata
6. Dendroica auduboni. - A few
7. Parus griseus confinis
8. Spizella socialis arizonae
9. Tanagra leucophrys.
10. Chondestes lincolni. - I saw
a number of Lincoln's Finch
on the S. Fork close to where
Genl. Crook was talking to
his Indians, and on that account
did not shoot any of them.
11. Junco hiemalis borealis.
12. Junco hiemalis borealis.
13. Pipilo maculatus megalonyx.
14. Scelopophagus cyanocephalus.
15. Corvus corax. Very Common
16. Corvus sinuatus. A few

There are plenty of fine trout in the creeks near Fort Apache; but only a very few small minnows were seen all along the South Fork. After the two forks unite (just ^{opposite} at the Post Hospital) the suckers are found in abundance; and there are a good many trout there also.

(Oct. 13)

17. *Cyanocitta stelleri macrolopha*.
18. *Opheona woodhousei*
19. *Gymnopus cyanocephala*
20. *Picus villosus harrisi*
21. *Sphyrapicus varius nuchalis*
22. *Melanerpes formicivorus*

Very abundant. *Storninacornis*

23. *Colaptes auratus mexicanus*
Exceedingly abundant.

24. *Columba fasciata*. A few

25. *Accipiter fusces*

26. *Junco oreganus*

27. *Buteo calurus*. - One shot.

28. *Meleagris gallopavo mexicana*

29. *Bubo virginianus*

No. 3406. *Sphyrapicus varius nuchalis* ♂ ad.

Verges towards var. ruber.

225; 403; 128; 90; cul., 26; gape, 28; tarsus, 21; mte., 23; cl., 9.

3407. *Gymnopus cyanocephala* ♂ ad.

301; 486; 154; 120; cul., 37; gape, 40; tars., 39; mte., 34; cl., 10.5. Iris, hazel. Bill, tarsi, feet, and

claws, black.

3408. Gymnopus cyanocephala, ♀ ad.
281; 462; 143; 112; cul., 34;
gape, 37; tars., 37; mte 30; cl. 9.

Colors like 3407. Crop full of acorns from the small-leaved oak.

3409. Aphelocoma woodhousei, ♀ ad.
297; 403; 122; 141; cul., 26.5;
gape, 30.5; tars., 40; mte., 31.5; cl. 10.
Irides hazel. Bill, legs, feet & claws, black.

3410. Aphelocoma woodhousei, ♂ ad.
315; 420; 130; 155; cul. 27; gape, 31;
tars., 42; mte 31; cl. 9.5. Colors like 3409.

3411. Junco sparverius, ♂ ad. ^{not Epache}
272; 483; 92; 136; cul. + cere, 16; cere,
4.5; cul., 12.5; gape, 17.5; tars., 37.5; mte 32; cl. 10.

3412. Colaptes mexicanus, ♂ ad.
325; 550; 165; 121; cul. 38; gape, 42
tars., 32; mte, 34; cl., 11.5.

3413. Junco hiemalis oregonus ♀ ad.
157; 237; 74; 73; cul., 12; gape,
12.5; tars., 21; mte, 20; cl., 6.

Genl. Crook asked me to stay behind and assist Fisher, the Post Surgeon to perform the operation of extirpation of both mammary glands for the cure of cancer.

We did not leave Epache until 2:15 P.M. The following birds were noted:

1. Merula migratoria propinqua
2. Sialia mexicana
3. Sitta carolinensis aculeata
4. Lophophanes inornatus
5. Regulus calendula
6. Dendroica auduboni
7. Passerculus oelvaephilus
8. Pooecetes gramineus
9. Spizella socialis arizonae
10. Zonotrichia leucophrys
11. Pipilo maculatus megalonyx
12. Empidonax affinis
12. Scolecophagus cyanocephalus

13. *Corvus corax*
 14. *Symnophila cyanocephala*
 15. *Aphelocoma woodhousei*
 16. *Cyanocitta stelleri macrolopha*
 17. *Picus villosus*. - One seen
 upon a prostrate pine log
 picking. Several seen
 18. *Sphyrapicus varius nuchalis*
 A number seen.
 19. *Melanerpes formicivorus*
 Very abundant & busily
 engaged in carrying acorns
 and storing them in holes
 in the bark of *Pinus*
 and between the bark and
 the wood. I stripped the
 bark from the lower part
 of a dead pine-tree, for the
 purpose of gathering specimens
 of the acorns pounded in holes
 in the bark. As I did so
 about a peck of acorns

(Oct. 14)

sattled to the ground. They were small aconis from the small-leaved oak (*Quercus emoryi*), I filled my pocket & found them as sweet as chestnuts and very good eating. As high up as I was able to loosen the bark, I found a layer of aconis between it and the trunk. These birds are noisy & gregarious, but withal very industrious & may always be seen carrying an acon from the oak to the pine-tree. The black & white colors are displayed to advantage in flight & the red crest gleams brightly.

20. *Colaptes auratus mexicanus*
Very abundant

21. *Junco sparrow*

22. *Accipiter fuscus*

23. *Buteo borealis calurus*

24. Zenaidura carolinensis. One

25. Contortyx massena. - Sub,

Crook saw one flock,

26. Meleagris gallopavo. - Sub

Crook shot two from a flock,

After rising at daylight, we tried to find the trail across the Canon to camp in time to feed our horses & ourselves. I had breakfasted yesterday in camp & eaten a lunch with Dr. Fisher & was famished. Last night when I lay down to sleep, after riding all the afternoon and evening, and hunting part of the night for a trail across Black River Canon to camp, with only my saddle blankets for bed & covering & my saddle for a pillow. This morning I was horribly hungry, but we had much difficulty in finding the trail, and I became discouraged when I saw Genl. Crook riding off on his mule. Knowing that the Command would immediately follow

Oct. 15-

and it would be too late to
 feed as the grain and
 rations would all be packed
 on the mules. I thought the
 train would of necessity have
 to follow the main road to
 San Carlos, and so turned
 and retraced my steps,
 leading my horse back up
 the rocky Malapai hillsides
 to the camp where Steward & I
 and myself had slept last
 night. I saw a magnificent
 Wildcat (Lynx rufus) while
 looking for the San Carlos
 road. It ran towards me
 & crossed within a few
 rods of my horse, so near
 that I might easily have shot
 it dead if I had been provided
 with a heavy charge of shot;
 but as I only had fine birdshot
 I did not shoot at all, but

Oct. 15.

had watched the motions of this handsome, graceful animal, which I have seldom seen alive before. I soon got on the road & reached Black River at the bottom of the Canon, about 2 or 3 miles below the General's camp. I intended to keep the road and ride slowly until the column overtook me, but when I reached the top of the Canon it occurred to me that the General might not choose to strike the road at all; so I concluded to tie my hungry horse & let him eat grass while I followed the crest of the hill & met the column & obtained information concerning the route; but I was too late & only found at last night's camp the

grain pack mules & packers. My Hospital Steward Darg who had found the trail after I left him & had waited for me. The packers had no knowledge about the route to be travelled & only said they were going to follow Soul Crook's trail & the Command's. The Steward had reached camp just as the cooks were leaving & gotten a little cold coffee & ginger snaps & shared them with me. He had eaten supper with an outfit of Mormons who passed by while he was holding the horses & I was looking for a way to camp, so was not so starved as now. He advised me to go back & get my horse & follow the General's trail. I did

Oct. 15

but it was an awful
tramp & my horse was
tired and balked when
I tried to lead him down
the last Malapai hill
to the Steward's horse & trail.
At length I got him down.
At the River a magnificent
drake of Mergus serrator
could have been shot had
not the Steward taken charge
of my gun & coat when I
went back. Black River
is the handsomest stream I
have seen in Arizona &
is filled with beautiful
trout & haunted by wildfowl.

After grazing our hungry
horses & working up a few
notes, we followed the
trail. Large flocks of
Maximilian's Jays and
a good number of more

Oct. 15


other species of Jays &
a multitude of Flickers
& Carpenters were seen.
As we rode over the
rough Malapai hills the
Steward's horse had lost
two shoes & he consequently
preferred walking & leading
his horse a good part of
the way. A flock of Bob-
Quails was passed by
the Steward within a few
feet; but they flew when I
reached them & scattered,
uttering a loud note as they
left the ground with a
whirring sound. I flushed
four of them again while the
Steward was trying to fasten
on a shoe to his horse's
foot with a couple of stones
in lieu of a hammer, but
only shot one, a young

(Oct. 13.)

one, We presently struck the San Carlos road & I had the mortification of knowing that had I followed my original plan & followed the road I would have ridden into camp at the head of the procession and saved myself four hours of desperately hard work.

The timber along the road was juniper, pine & oak until we got to the bottom of Rocky Canon & found only junipers & oaks, and thence passed out of the Canon upon a large prairie through which Ash Creek, bordered with junipers & oaks & some deciduous trees. We reached camp 14 just at dark. On the prairie we found Doves

Oct. 15

and some tall cacti growing in  tree form and bearing yellow fruit. The same that we saw while passing through New Mexico.

The Birds seen were

1. *Merula migratoria propinqua*
2. *Sialia mexicana*
3. *Regulus calendula*
4. *Lophophanes inornatus*. In junipers.
5. *Parus montanus*. In flocks on the highest ground.
6. *Sitta carolinensis aculeata*. All along.
7. *Sitta pygmaea*. - A few flocks amongst the pines on the highest ground.
8. *Dendroica auduboni*
9. *Pooecetes gramineus*. A few
10. *Passerculus ochrocephalus*. A few on the prairie.

Oct. 15

after leaving Rocky Canon

11. *Junco hyemalis oregonus*
12. *Junco hyemalis dorsalis*
13. *Spizella domesticus arizonae*
14. *Elmophila alpestris*
15. *Pipilo maculatus megalonyx*
16. *Sturnella neglecta*, One
near Black River; the
second seen on the trip.
17. *Corvus corax*, - Common -
18. *Cyanocitta stelleri macrolopha*
19. *Aphelocoma woodhousei*
20. *Cyanocitta ultramarina*
21. *Gymnophila cyanocephala*

All four of the Jays were abundant on Black River & were seen in the same groves of trees together. All were numerous as long as we were in the timber. *Aphelocoma woodhousei* & *Cyanocitta ultramarina*

Oct. 15

are partial to the oaks.

The other two to the evergreens.

22. *Picus villosus harrisi*
23. *Sphyrapicus nuchalis*
24. *Melanerpes formicivorus*
25. *Colaptes mexicanus*
26. *Ceryle alcyon*, - One or
two on Black River
27. *Bubo virginianus*, - One on
bank of Black River.
28. *Ammodramus sparverius*
29. ~~Falco~~ *Accipiter fuscus*
30. *Buteo calurus*
31. *Zenaidura macroura*

Abundant after we left the Rocky Canon trees along the road. Not seen before.

32. *Lophortyx gambeli*, - One
flock seen at the bottom
of Rocky Canon.
33. *Copilotyrus massina* -
Capt Robert saw one

Oct. 15.

flock near Black River.
 Genl. Crook saw two flocks
 + shot the head off of an
 old male. I saw one flock
 + shot one young one.

34. Ardea herodias. - One on Black River.

35. Anas boschas. - The Genl. saw 4
 in Black River

36. Mergus merganser. - The Genl.
 saw a ♀ + I saw a male in
 Black River

37. Geococcyx californianus. - One seen down
 in the prairie after leaving Rocky Canyon.

Mammals. - I saw one

1. Wild Cat. See note above

2. Coyote. Genl. Crook shot one

3. Tamias. - Abundant

4. Mexican White-tailed Deer.

Oct. 16

(Heentig)

We left camp 14 on Ash Creek
 at 6 o'clock am. and made
 Camp 15 on the Gila River at
 1.30 P.M. Capt. Bourque found
 a wounded Loon (Colymbus
torquatus) in the Gila, when
 inspecting some ^{irrigation} ditches dug by
 the Indians. A large
 species of ^(Parthenocia or Cercidium) mesquite grows along
 the Gila. It has small, delicate
 leaves. On the way here we saw
 hundreds of Giant Cacti, ^(Pereskia gigantea) some
 of which were much branched,
 and at least 40 feet high. They
 are corrugated longitudinally
 with the crest of the sugar
 studded with stellate spines.
 Many of them had holes bored
 in them by Woodpeckers, and
 the holes were very possibly
 inhabited by Whitney's Chols.
 The Beehive cacti ^(Echinocactus) & large round
 jointed cacti as high as a man

Oct. 16.

mounted were very plentiful
as was a low, coarse, spiny
cactus, new to me. As we
went down upon the lower foot
hills we first saw mesquites
on the left at least since we
left Verde.

Mammals:

Canon or Rock Squirrels - seen

A large Rattlesnake was shot
in the rocky foot-hills of the Gila.

Oct. 16..

1. Tamias crissalis. - A few
were ^{seen} heard singing in the
lower foot-hills.
2. Oroscoptes montanus. - Common
in the foot-hills + Gila bottom
3. Sialia mexicana. - One flock.
4. Salpinctes obsoletus. - Common
in the rocky canons in the foot-
hills of the Gila Valley.
5. Eremophila alpestris. - A few -
large flocks in prairies near
Ash Creek Camp.
6. Carpodacus frontalis. - Abundant
at Camp 14 on Ash Creek +
thence to the Gila.
7. Passerculus swainsoni. - One
shot near Ash Creek camp +
a few others seen en route
8. Passerculus hemiphaeus.
One seen.
9. Poocetes gramineus caninus.
10. Empidonax bilineatus. - First
seen since leaving Verde. They

appeared in small numbers in the foot hills & became abundant as we descended to the Gila bottom.

11. Pipilo aberti. - First seen since leaving Verde. Several were seen in the foot hills; & the species became abundant as we got down to the Gila bottom.

12. Pipilo maculatus megalonyx. - A number were seen in the foot-hills.

13. Zonotrichia leucophrys. - Side stripe barely extended to eye & was brown on the occiput in a specimen I shot in adult plumage. The young ones shot were with it.

14. Scolecophagus cyanocephalus. - In large flocks in camp on Ash Creek. One was found at a water-hole which was so gentle that it was almost captured & afterwards followed

our horses for a mile or more, constantly alighting beside us on the road. We suspected that it had been a tame bird. We saw several other flocks on our side to the Gila.

15. Corvus corax. - Numbers seen about Camp 14 as we were leaving & settled about the camp & ate the leavings from mess as soon as fire left. They often alighted close to our horses & mules along the road.

16. Aphelocoma woodhousei. - Common all through the foot hills wherever there was vegetation enough to suit it.

17. Gymnospiza cyanocephala. - Large flocks seen all along the route until we reached the lower foot-hills.

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18. Lagornis sacyi. - One seen in the foot hills.
 19. Geococcyx californianus. - One seen by Genl. Crook.
 20. Accipiter fuscus. - A few seen.
 21. Accipiter cooperi. One.
 22. Ammodramus sparverius. A number seen.
 23. Falco columbarius. One seen in a rocky canon.

24. Lophortyx gambeli. One flock seen in the foot-hills.

[After we reached the Gila I had to attend to business and callers (Capt. Crawford & Dr. Davis). The Dr. gave me a good many interesting facts in zoology. These things prevented my exploring the banks of the Gila where we were encamped; but when I went to bathe I saw plenty of Gambels Quail & Song Sparrows

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and heard Flickers all the afternoon. In the evening Genl. Crook called out to me as I sat talking to Dr. Davis "Say, Doctor, did you hear that note? That was the Gila Woodpecker!" I snatched up my gun and after waiting among the scattered cottonwoods a little while I shot the first specimen I ever saw.] Some Ducks were seen in the Gila.

25. Melospiza fasciata
 26. Colaptes auratus mexicanus
 27. Centurus urophasianus.

3414. Colymbus torquatus ♂ juv.
 Length to end of tail 935.
 780; 1425; 355; 85; cul
 71; gape, 107; width of bill
 opposite base of nostril 12.5;
 depth same place 22.5. Bare
 tibia tarsus 92; outer toe 125

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~~note~~, cl 9. mte 115-12,
 Irides, rich brown, Bill
 with upper one-half of maxilla
 blackish + a dusky line
 extending $\frac{1}{2}$ from tip to base
 along gape + tip of mandible
 the same; cere of bill, pale
 greenish. Outer side of tarsi
 + feet, blackish; with a broad
 area of flesh color on center
 of webs (wedge-shaped - base toward
 claws). Inner surface of tarsi
 + feet, pale greenish; claws
 flesh-color, tipped with black.
 3415. Centurus urophagialis ^{ad.}
 244; 427; 132; 96; cul., 26;
 gape, 30; tars., 22.5; mte, 27;
 cl., 10.5. Irides, red. Bill,
 plumbeous-black; tarsi + feet,
 plumbeous; claws plumbeous
 at base shading to black at
 tip. Gila R. 13 m. fr. S. Carol.

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Between Hentig + Gila River

3416. Zonotrichia leucophrys ^{juv.}
 175; 260; 79; 81; cul., 12;
 gape, 13.5; tars 23; mte 23;
 cl., 6.5. Irides, hazel. Bill
 brownish-yellow, with maxilla
 slightly tipped with dusky.
 Tarsi feet + claws, brown.
~~3417. Carpodacus frontalis ^{ad.}~~
~~155; 250; 78; 69; cul., 10~~
~~gape, 10.5; tars 18; mte, 17; cl~~
~~5.5. Not skinned~~
 3418. ^{at Hentig} Passerculus savanna ^{ad.}
 149; 245; 71; 58; cul., 10.5;
 gape, 11.5; tars 21.5 mte 20 cl. 5.
 (3419) Oroscoptes montanus ^{ad.}
 230; 320; 99; 100; mte 12
 gape, 25; tars 32 mte 26 cl 7.
 Irides, yellow. Not skinned.

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3418

~~3420~~. *Centurus urophagioides* ♂ ad.

241; 418; 130; 91; cul., 26;

gape, 31; tars., 21.5; mte 27.5

Cl., 10; Gila 12 m. fr. S. Carlos

~~3419~~ ~~3421~~. *Centurus urophagioides* ♂ ad.

265; 454; 138; 100; cul., 32;

gape, 37; tars., 24; mte., 32;

Cl., 12; Irides dark red. Bill

black. Tarsi & feet

plumbeous - green; claws

plumbeous, dusky at tip.

3420

~~3422~~. *Centurus urophagioides* ♂ ad.

271; 455; 140; 99; cul. 33;

gape, 37.5; tarsus, 25; mte., 31;

Cl., 11.5; Gila Riv. 10 m. fr. S. Carlos.

3421

~~3423~~. *Centurus urophagioides* ♂ ad.

259; 445; 132; 98; cul. 32;

gape, 37; tarsus, 25.5; mte 30;

Cl., 11; Gila Riv. 10 m. fr. S. Carlos.

~~3421~~ ~~3424~~. *Diphyræus anachalis* ♂ juv.

221; 400; 124; 91; cul., 24;

gape, 27; tars., 21; mte., 23.5;

Cl., 8.5; Gila Riv. 10 m. fr. S. Carlos

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3423 length to end claws, 215;

~~3425~~. *Oryzoides macularius*

♀ juv. 188; 328; 99; 51;

cul., 24; gape, 26; tars., 24.5;

mte., 24; Cl., 4.5; bare tib., 12;

~~3424~~. *Junco oreganus* ♂ ad.

267; 565; 179; 132; cul.

ore., 14.5; cere, 4; cul., 12;

gape, 16.5; tars., 37; mte., 31;

Cl., 10.5; iris, hazel. Cere, yellow.

Base (terminal) of bill, tarsi & feet

orange yellow. Claws, black.

P. 10, plumbeous at base, shading

to black at tip.

~~3425~~ ~~3427~~. *Isoturus flavipes* ♂ ad.

Length to end of claws, 450.

363; 660; 205; 84; cul., 55;

gape, 62; bare tibia, 41;

tarsus, 63; mte., 44; Cl., 6.5

Irides, hazel. Bill, blackish

Legs & feet deep yellow

Claws, black. Gila Riv., 10

m. fr. S. Carlos

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Gila Riv. 7 m from San Carlos

~~2426~~ *Ardea herodias* ♀ ad.

Length to end of toes, 1310
 1015; 1640; 445; 172; cul,
 126; gape, 159; tib., 92;
 tars., 135; mte., 108; cl., 16.

The following birds were seen on
 the way to San Carlos from our
 camp on the Gila near the crossing
 at the Sub-Agency (Camp 15).

1. *Merula migratoria propinqua*. - Common
2. *Geothlypis trichas crissalis*. - Singing
3. *Oreoscoptes montanus*. - Common.
4. *Salpinctes obsoletus*. - In the canons
near San Carlos.
5. *Eremophila alpestris*. - A few.
6. *Dendroica auduboni*. - Common.
7. *Lanius ludovicianus*. - A few.
8. *Corpodacus frontalis*. - Very aban-
-dant. Singing in early morning
9. *Astragalinus psaltria*. - Singing. I
did not shoot any & do not know
whether they are typical *psaltria*
or var. *mexicana*.

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10. *Amphispiza bilineata*. - Common
and singing.
11. *Zonotrichia leucophrys*. - Exceedingly
abundant & singing a song
that resembles the notes of *albicollis*
12. *Melospiza fasciata*. - Common
beside the Gila all along the way.
13. *Spizella socialis arizonae*. - A few.
14. *Pipilo aberti*. - Very abundant.
15. *Sceloporus cyanocephalus*. -
In large flocks everywhere.
16. *Xanthocephalus icterocephalus*
In large flocks. (flocks)
17. *Sturnella neglecta*. - In small
18. *Corvus corax*. - Abundant
19. *Tyrannus vociferans*. - Abundant
Some may have been *verticalis*
20. *Sayornis sayi*. - A few.
21. *Vermilion Flycatcher*. - One seen
22. *Ceryle alcyon*. - Common
23. *Peleus scalaris*. - Common
24. *Colaptes auratus mexicanus*. - Common
25. *Ceryle alcyon*. - Two seen

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on the Gila in the cottonwoods and one shot but fell in an inaccessible locality. I was surprised at their presence in this low region.

26. Centurus urophagiatus. - Quite common among the cottonwoods along the Gila. They are often seen pecking at the lower part of the tree trunks as well as in the tree-tops, and I even saw one fly down and alight upon the ground and pick up some insect. They often perch upon the topmost dry branch of a cottonwood in the manner of the Flicker. Their cry is a succession of harsh sounds.

27. Trinunculus sparverius. - Very abundant & gentle.

28. Accipiter fuscus. - Abundant.

29. Circus hudsonius. - One seen.

30. Lophortyx gambeli. - Common.

31. Ardea herodias. - Several.

32. Tringoides macularius. - Common.

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33. Totanus melanoleucus. Three seen.
34. Zonotrichia carolinensis. Four seen.
I shot the following-named

animals on the way to San Carlos:-

1 Jack Rabbit.

25 Gambel's Quails.

1 Great Blue Heron.

4. Gila Woodpeckers.

1 Greater Yellow-legs.

1 Spotted Sandpiper.

1 Nuchal Woodpecker.

1 Sparrow Hawk.

Total. 35.

The following Mammals were seen:

Tamias (Spermophilus). - Among the mesquites on the San Carlos flat at the Agency. (Tamias harrisi and Spermophilus tereticaudus).

Lepus Callosotis texanus. Two seen.

Coyote. - Abundant & yelling all night about camp. In the forenoon I saw one in the trail just in front of my horse; but was unprepared to shoot it before it got out of range.

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Leaster fiber. - This animal is abundant in the Gila & I saw many cottonwoods cut down and gnawed by them.

The Gila is little if any larger than the Verde River. It can be forded almost any where. The cottonwoods are not as plentiful nor as large & healthy trees as on the Verde. There is a good deal of brushwood along the banks, making good cover for small birds. In fact I saw myriads of little birds, chiefly sparrows, but did not take the time to hunt them up closely, as most of them were common sparrows etc., and the cover so close that they had to be shot in order to identify them.
 certainly.

7 to Clear Creek Camp 1.

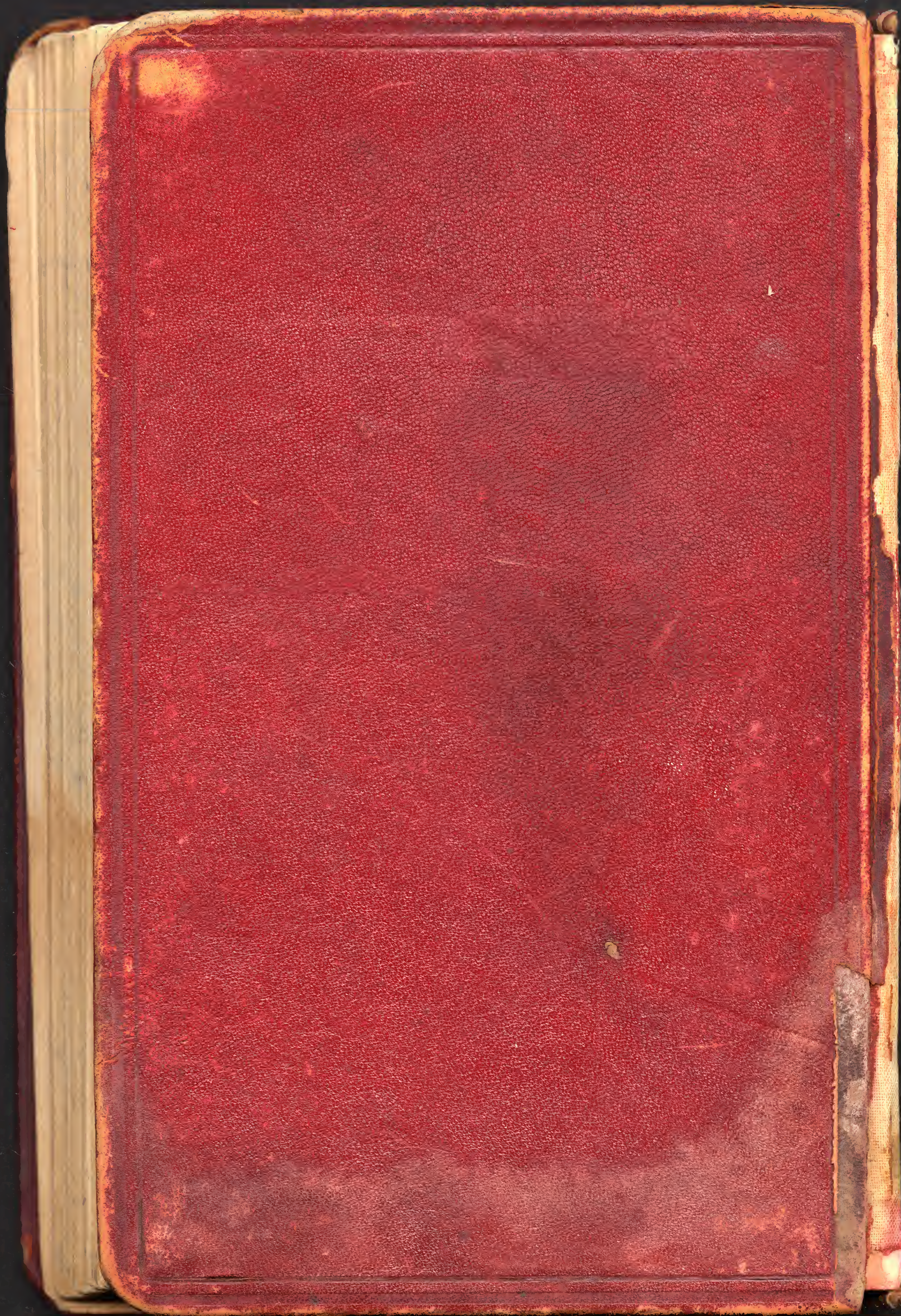
16 to Camp 2

16 to Camp 3.

19 to Camp 4

22 to Camp 5.

Feb. 23.
Harporhynchus crissalis ♂ 4; ♀ 6
Pipilo aberti ♂ 6; ♀ 6
Lanius excubitorides ♂ 6; ♀ 7
Pipilo mac. megalonyx ♂ 6; ♀ 10
Lophortyx gambeli ♂ 0; ♀ 3
Junco sparrow ♂ 0; ♀ 5
Calamospiza melanocorys ♂ 1; ♀ 9
Oxyechus vociferus ♂ 5; ♀ 6



#8. ^{49, 50, then skip to p.} begin with p. 94, go to end (p. 242); then to p. **50** and go to p. 93;
then to p. 40 and go to p. 47.

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